2022-2023 UNDERGRADUATE CATALOG





49ERS





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 Evening Services 704-687-5104
Advising Center 704-687-7717
Athletics 704-687-1054
Bookstore 704-687-7050
Bursar 704-687-5506

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
- Liberal Arts & Sciences 704-687-0088
- 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
Distance Education 704-687-1285
Financial Aid 704-687-5504
Health Center 704-687-7400
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
Registrar 704-687-5505
SOAR 704-687-0340
Student Engagement/Student Union 704-687-7100
University Career Center 704-687-0795
University Center for Academic Excellence 704-687-7837
University Recreation 704-687-0430
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 2022. 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
Eric A. Klee and P.J. Frick, Catalog Editors

About the Cover
The new All-In UNC Charlotte logo was adopted in Fall 2021 and features a block-style letter C with an embedded pickaxe, as used by mascot Norm the Niner. Preceding it is the new 49ers logo adopted in Fall 2020, which features the embedded pickaxe as well.

The New Science Building opened in January 2022, as home to the Departments of Biological Science, Chemistry, and Physics and Optical Science.

A new memorial sculpture in the UNC Charlotte Botanical Gardens dedicated as part of the University's 2022 Niner Nation Remembrance of the April 30, 2019, campus shooting. Designed by Marek Ranis and Tom Schmidt, associate professors of art, the sculpture commemorates how the campus and greater community united to express "We are all Niners."

Photos by Wade Bruton and Kat Lawrence, University Photographers.

Publication Information
Font Type: Benton Sans

Copyright 2022
The University of North Carolina at Charlotte
All rights reserved.

UNIVERSITY OF NORTH CAROLINA
CHARLOTTE

The University of North Carolina at Charlotte

Undergraduate Catalog
2022-2023
Vol. XLV

Fall 2022, Spring 2023, Summer 2023

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 race, color, religion, sex, sexual orientation, actual or perceived gender identity, gender expression, age, national origin, physical or mental disability, political affiliation, veteran status, or genetic information. In keeping with this commitment, UNC Charlotte actively seeks to promote diversity in its educational environment through its recruitment, enrollment, and hiring practices.

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

Welcome to UNC Charlotte, North Carolina's urban research university. As you work toward your undergraduate or graduate degree, please think of UNC Charlotte's dedicated faculty and staff as your partners in your success. Their expertise and support, along with the many University resources and services available to you, will enable you to meet your academic, personal, and professional aspirations.



As we emerge from pandemic life, it's so great to see the world opening up and to be able to gather in person. It's amazing how many things we took for granted pre-COVID. Even though the last two years have provided some major challenges and obstacles, I couldn't be more proud of how the members of Niner Nation came together and worked to provide the safest environment possible for all of us, while also implementing creative measures that allowed for a flexible and robust learning environment.

As you embark on your academic career at UNC Charlotte, I hope you will avail yourself of the many services that the University offers. One service that I believe you will find especially helpful in navigating your college experience is Niner Central, which is a one-stop shop for nearly any college-related issue that you can imagine. The physical location for Niner Central is at the front entrance of the Cone University Center. There you will find experts ready to assist with questions related to financial aid, billing/payments, course registration, transcripts, student records, etc. The Niner Central website (ninercentral.charlotte.edu) also contains loads of information in one place to help you get the answers you need as quickly and easily as possible.

I hope you'll also take advantage of the transportation options that are designed to make life more convenient for our campus community. The light rail service on campus connects Niner Nation to Uptown Charlotte and all that it has to offer. And that includes quick and convenient access to the Dubois Center, UNC Charlotte's campus in Center City, which is a hub for a number of our graduate programs. Its prime location also provides the University a place to convene civic, business, and community leaders around thought-provoking topics. Access to these leaders, and connections you may establish with them, could prove valuable to your educational pursuits and career prospects. Part of the transportation fee that you pay ensures your unlimited access to light rail, any city bus or shuttle, the Uptown trolley, and the campus shuttle system, "Niner Transit."

In joining the UNC Charlotte community—Niner Nation—you become part of a community in which students, faculty, and staff work collaboratively to identify and address the needs of the greater Charlotte region. We have a stake in the quality of life of the citizens of the communities we serve, so we constantly are pioneering new ways to drive economic growth and to meet the region's environmental, health, and social needs.

We know that college is more than textbooks and classes, so we encourage you to become actively engaged on campus. Explore all the possibilities available – take advantage of leadership and volunteer opportunities; attend cultural events and lectures; participate in intramural sports; and, of course, we want to see you cheering on your Charlotte 49er athletic teams wherever they might be competing.

I am beyond thrilled to be a part of Niner Nation, and I hope you feel the same way. So once again, welcome! I'm delighted that you've made UNC Charlotte your university of choice. Go Niners!

Sincerely,

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 diverse, progressive city, our institution is alive with possibilities to learn and grow. Our distinguished faculty are here to provide you with a quality education that will open doors for you. Over the past few years, Niner Nation has proven itself to be a resilient and resourceful community. We have learned how to adjust and adapt. So, no matter what comes our way, we are dedicated to your education and are offering resources through college advising centers and the University Center for Academic Excellence to help you succeed. Please reach out to your academic advisor early and often, as they are here to help you stay on track to meet your goals.

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 that you will cherish as you move on through the years.

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,

Joan F. Lorden
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 16
About the University 18

STUDENT INFORMATION ABOUT ATTENDING THE UNIVERSITY

Admission to the University 42
University Regulation of Student Conduct 49
- Code of Student Academic Integrity 50
- Code of Student Responsibility 51
- Illegal Drugs and Alcohol Abuse 51
- Smoking and Use of Tobacco Products 52
- Noble Niner Code 53

Degree Requirements and Academic Policies 54
- Academic Advising 55
- Baccalaureate Degree Progression 55
- Baccalaureate Degree Requirements 56
- General Education Program 56
- Declaring Majors and Minors 59
- Registration 60
- Termination of Enrollment 62
- Course Attendance and Participation 63
- Grading 64
- Academic Standing 66
- Readmission of Former Students 67
- Academic Appeal and Grievance Procedures 68
- Transfer Credit/Advanced Academic Standing 68
- Graduation 70
- Academic Records and Transcripts 70
- FERPA 70

Financial Information 74
- Tuition and Fees 75
- Dining, Housing, and Parking 77
- Financial Aid 78
- Scholarships 80
- Payment 81
- Refunds 82

COLLEGE OF ARTS + ARCHITECTURE

College of Arts + Architecture 83
Architecture 87
Art and Art History 93
Dance 109
Music 115
Musical Theatre 125
Theatre 126

BELK COLLEGE OF BUSINESS

College of Business 134
Accountancy 139
Business Information Systems and Operations Management 141
Economics 147
Finance 151
Management 157
Marketing 162

COLLEGE OF COMPUTING AND INFORMATICS

College of Computing and Informatics 165
Bioinformatics and Genomics 168
Computer Science 172
Software and Information Systems 179

CATO COLLEGE OF EDUCATION

College of Education 188
Counseling 195
Educational Leadership 195
Middle, Secondary, and K-12 Education 196
Reading and Elementary Education 203
Special Education and Child Development 207

THE WILLIAM STATES LEE COLLEGE OF ENGINEERING

College of Engineering 215
Civil and Environmental Engineering 220
Electrical and Computer Engineering 231
Engineering Technology and Construction Management 245
Mechanical Engineering and Engineering Science 279
Systems Engineering and Engineering Management 291

COLLEGE OF HEALTH AND HUMAN SERVICES

College of Health and Human Services 298
Applied Physiology, Health, and Clinical Sciences 300
Nursing 309
Public Health Sciences 313
Social Work 319

COLLEGE OF LIBERAL ARTS & SCIENCES

College of Liberal Arts & Sciences 322
Africana Studies 326
Anthropology 330
Biological Sciences 336
Chemistry 342
Communication Studies 350
Criminal Justice and Criminology 360
English 365
Geography and Earth Sciences 376
Global Studies 393
History 402
Interdisciplinary Studies 407
Languages and Culture Studies 427
LEADS Program 445
Mathematics and Statistics 446
Philosophy 457
Physics and Optical Science 460
Political Science and Public Administration 465
Psychological Science 471
Religious Studies 475
ROTC: Air Force / Aerospace Studies 480
ROTC: Army / Military Science 481
Sociology 482
Writing, Rhetoric, and Digital Studies 489

SCHOOL OF DATA SCIENCE

Data Science 492

SCHOOL OF PROFESSIONAL STUDIES

Professional Studies 496
Online Academic Programs 498
Professional Credit 498
Employer Solutions 498

HONORS COLLEGE

Honors College 499

COURSE DESCRIPTIONS

Course Descriptions (AAHP-WRDS) 503

OFFICE OF UNDERGRADUATE EDUCATION

Office of Undergraduate Education 736
Advising Systems 737
Athletic Academic Center 737
Communication Across the Curriculum 738
Disability Services 738
First-Year Experience 738
Office of Academic Diversity and Inclusion 739
Office of Undergraduate Research 739
University Advising Center 740
University Career Center 740
University Center for Academic Excellence 741
University College 742
University Transfer Center 742

CAMPUS LIFE AND STUDENT RESOURCES

Campus Life and Student Resources 743
Adult Students and Evening Services 744
Athletics and Recreation 744
Auxiliary Services 746
Dean of Students Office 749
Environmental Facilities and Services 751
Health, Wellness, and Counseling Services 752
Housing and Residence Life 753
International Programs 755
Library 756
Performing Arts 757
Policy and Public Safety 757
Student Engagement 758
Technology 761
University Advancement 762

ADDITIONAL RESOURCES

Faculty Directory 764
Glossary 824
Index 836
Campus Map 847

Academic Calendar
2022-2023

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

FALL 2022

Aug 15	Academic year begins
Aug 21	New Student Convocation
Aug 22	First day of classes (Full Term & First Half Term)
Aug 27	First day of classes (Saturdays)
Sep 3	No Saturday classes
Sep 5	HOLIDAY: Labor Day
Oct 5	Last day of classes (First Half Term)
Oct 10-11	Fall Recess
Oct 12-13	Final examinations (First Half Term)
Oct 20	First day of classes (Second Half Term)
Oct 31	Registration for Spring 2023 begins
Nov 11	HOLIDAY: Veteran's Day
Nov 23-26	HOLIDAY: Thanksgiving
Dec 7	Last day of classes (Full Term & Second Half Term)
Dec 8	Reading day
Dec 9-15	Final examinations (Full Term & Second Half Term)
Dec 16-17	Fall Commencement

SPRING 2023

Jan 9	First day of classes
Jan 16	HOLIDAY: M.L. King, Jr. Day
Jan 21	First day of classes (Saturdays)
Feb 27 - Mar 4	Spring Break
Apr 3	Registration for Summer 2023 and Fall 2023 begins
Apr 14-15	Refresh Weekend
May 2	Last day of classes
May 3	Reading Day
May 4-11	Final examinations
May 12-13	Spring Commencement
May 15	Academic year ends

SUMMER 2023

May 22 - Jun 28	Summer First Half Term*
May 22 - Aug 10	Summer Full Term*
May 29	HOLIDAY: Memorial Day
Jun 29 - Jul 1	No classes
Jul 4	HOLIDAY: Independence Day
Jul 5 - Aug 10	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 2022

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 2022

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 2022

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					

NOVEMBER 2022

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 2022

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 2023

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 2023

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 2023

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 2023

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 2023

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 2023

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 2023

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, 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 the rules and regulations of the University 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 that academic year 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. 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:

- **Bachelor's Degrees**
  - B.A. in Interdisciplinary Studies with Concentration in Capitalism Studies
  - B.A. in Interdisciplinary Studies with Concentration in Health and Medical Humanities
  - B.A. in Interdisciplinary Studies with Concentration in Women's and Gender Studies
  - B.S. in Exercise Science with Concentration in Strength and Conditioning
  - B.S. in Professional Studies
- **Undergraduate Certificates**
  - Undergraduate Certificate in Entrepreneurship
  - Undergraduate Certificate in Sports Analytics

Program Changes

Major changes to existing undergraduate degree programs include:

- **Bachelor's Degrees**
  - B.A. in Spanish with Concentration in Hispanic Studies renamed B.A. in Spanish (no concentration)
  - B.S. in Exercise Science with Concentration in Credentialing renamed Concentration in Health and Fitness
- **Minors**
  - Minor in Health/Medical Humanities renamed Minor in Health & Medical Humanities

Discontinued Programs

Discontinued undergraduate degrees and programs include:

- B.A. in Spanish with Concentration in Hispanic Studies
- B.S. in Biology with Concentration in Cell Biology/Physiology
- B.S. in Biology with Concentration in Ecology/Environmental Biology
- B.S. in Biology with Concentration in Microbiology
- B.S.E.T. in Fire and Safety Engineering Technology with Concentration in Fire Protection

Additional Changes

- New UNC Charlotte logo introduced
- SAT and/or ACT scores no longer required for the Admission Application to UNC Charlotte
- School of Professional Studies created
- Office of Interdisciplinary Studies in the College of Liberal Arts & Sciences created
- Department of Kinesiology renamed Department of Applied Physiology, Health, and Clinical Sciences
- Classroom Attendance policy changed to Course Attendance and Participation policy and revised
- Registration policy was revised
- Many KNES (Kinesiology) courses changed to EXER (Exercise Science) courses
- New IDST (Interdisciplinary) courses
- New PROS (Professional Studies) courses

Student Responsibility

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. The advisor will counsel, but the final responsibility remains that of the student.

A student is required to have knowledge of and observe all 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 credibly 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 legal.charlotte.edu/policies/chapter-400. 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



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	BA	✓		✓
Art 3D Interdisciplinary Studies: Art in Space Art Education Digital Media Illustration Painting Photography Print Media Cross-Disciplinary	BA, BFA			
Art History	BA	✓		
Dance Applied Dance Dance Education Performance, Choreography, and Theory	BA	✓	✓	
Graphic Design	BFA			
Jazz Studies			✓	
Music Composition Elective Study in an Outside Field Music Education, Instrumental/General Music Education, Choral/General Jazz Studies Performance, Instrumental Performance, Vocal	BA, BM	✓		
Musical Theatre			✓	
Theatre Applied Theatre Design/Tech Directing, Dramaturgy, and Dramatic Writing (3-D) Performance Theatre Education	BA	✓		
Belk College of Business				
Accounting	BS			✓
Business Analytics	BSBA			✓
Economics Business Liberal Arts	BS	✓		✓
Entrepreneurship			✓	
Finance Finance Finance/Accounting Risk Management and Insurance	BSBA			✓
International Business	BSBA			
International Management		✓		
Management Human Resource Management Organizational Management	BSBA			
Management Information Systems	BSBA	✓		
Marketing Marketing Marketing Analytics	BSBA			

Operations and Supply Chains Management	BSBA	✓		
	Bachelor's	**Minor**	**Undergraduate Certificate**	**Graduate Early Entry Program**
College of Computing and Informatics				
Artificial Intelligence		✓		
Bioinformatics and Genomics		✓		✓
Computer Science AI, Robotics, and Gaming Bioinformatics Cybersecurity Data Science Human-Computer Interaction Information Technology Software, Systems, and Networks Software Engineering Web and Mobile Applications	BA, BS			✓
Cybersecurity				✓
Data Science		✓		
Information Technology				✓
Game Design and Development			✓	
Human-Centered Design		✓		
Interactive Programming		✓		
Software and Information Systems				✓
Software Development		✓		
Software Systems		✓		
Cato College of Education				
Child and Family Development	BA	✓		
Elementary Education	BA			✓
Foreign Language Education (K-12)		✓		✓
Global Education, Applied Understandings		✓		
Middle Grades Education	BA			
Reading Education		✓		✓
Secondary Education		✓		
Special Education Adapted Curriculum General Curriculum Academically or Intellectually Gifted	BA			✓
Special Education | Elementary Education (dual)	BA			
Teaching English as a Second Language		✓		
Urban Youth and Communities		✓		
The William States Lee College of Engineering				
Construction Management Applied Energy and Sustainable Systems	BSCM			✓
Engineering				
Civil Engineering Energy Infrastructure Land Development Engineering	BSCE			✓
Computer Engineering	BSCpE	✓		✓
Electrical Engineering Power and Energy Systems	BSEE	✓		✓
Mechanical Engineering Biomedical Engineering Energy Engineering Motorsports Engineering	BSME			✓
Systems Engineering	BSSE			✓

	Bachelor's	Minor	Undergraduate Certificate	Graduate Early Entry Program
The William States Lee College of Engineering (continued)				
Engineering Technology				✓
Civil Engineering Technology Applied Energy and Sustainable Systems	BSET			
Electrical Engineering Technology Applied Energy Electromechanical	BSET			✓
Fire and Safety Engineering Technology Fire Safety Occupational Safety	BSET			✓
Mechanical Engineering Technology Applied Energy Electromechanical	BSET			
College of Health and Human Services				
Exercise Science Health and Fitness Pre-Professional Strength and Conditioning	BS			✓
Health Informatics and Analytics				✓
Health Systems Management	BS			✓
Neurodiagnostics and Sleep Science	BS			
Nursing RN-to-BSN	BSN			✓
Outdoor Adventure Leadership		✓		
Public Health	BSPH	✓		✓
Respiratory Therapy	BSRT			
Social Work	BSW			
Sports Analytics			✓	
College of Liberal Arts & Sciences				
Actuarial Mathematics		✓		
Aerospace Studies		✓		
Africana Studies Health and Environment	BA	✓		✓
Anthropology Applied Anthropology	BA	✓		✓
American Studies		✓		
Arabic Studies		✓		
Biology	BA, BS	✓		✓
Biotechnology		✓		
Capitalism Studies		✓		
Chemistry Biochemistry Education	BA, BS	✓		✓
Children's Literature and Childhood Studies		✓		
Chinese		✓		
Classical Studies		✓		
Cognitive Science		✓		
Communication Studies Communication and Public Advocacy Health Communication Mass Media Organizational Communication Public Relations	BA	✓		✓
Criminal Justice Crime Analytics	BA	✓		✓
Diverse Literatures and Cultural Studies		✓		

College of Liberal Arts & Sciences (continued)	Bachelor's	Minor	Undergraduate Certificate	Graduate Early Entry Program
Earth and Environmental Sciences Atmospheric Sciences Environmental Sciences Hydrological Sciences	BS	✓		✓
English Creative Writing Language and Digital Technology Literature and Culture Pedagogy	BA	✓		✓
Environmental Studies Education	BA	✓		
Film Studies		✓		
Francophone Studies		✓		
French Business Translating	BA	✓	✓	✓
French Education (K-12)	BA			
Geography GIScience and Technology Urban and Regional Planning Urban, Social, and Economic (USE) Geography Education	BA, BS	✓		✓
Geology	BS	✓		
German Business Education Translating	BA	✓	✓	✓
Gerontology		✓		✓
Health & Medical Humanities		✓		
History Education	BA	✓		✓
Humanities, Technology, and Science		✓		
Interdisciplinary Studies	BA			
International Public Relations			✓	
International Studies Asian Studies Development and Sustainability European Studies Holocaust, Genocide, and Human Rights Peace, Conflict, and Identity	BA	✓ ✓		
Italian		✓		
Japanese Business Translating	BA	✓	✓	✓
Journalism		✓		
Latin American Studies	BA	✓		✓
Leadership Studies			✓	
Legal Studies		✓		
Linguistics		✓		
Mathematics Actuarial Science Statistics Education	BA, BS	✓	✓	✓
Mathematics for Business	BA, BS			
Meteorology	BS			
Military Science		✓		
Philosophy	BA	✓		✓
Physics	BA, BS	✓		✓

	Bachelor's	Minor	Undergraduate Certificate	Graduate Early Entry Program
Physics | Computer Engineering (dual)	BS			
College of Liberal Arts & Sciences (continued)				
Physics | Electrical Engineering (dual)	BS			
Physics | Mechanical Engineering (dual)	BS			
Political Science Security and Intelligence Systems	BA	✓		✓
Psychology	BS	✓		✓
Religious Studies	BA	✓		✓
Russian Translating		✓	✓	
Sociology Organizations, Occupations, and Work Social Problems and Policy Sociological Social Psychology	BA	✓		✓
Southern Studies		✓		
Spanish Applied Language Business Literature and Culture Education Translating	BA	✓	✓	✓
Statistics		✓		
Technical and Professional Writing		✓		
Urban Studies		✓		
Video Production		✓		
Women's and Gender Studies		✓		✓
Writing, Rhetoric, and Digital Studies	BA	✓		
School of Data Science				
Data Science	BS			
Health Informatics and Analytics				✓
School of Professional Studies				
Professional Studies	BS			

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 Office of 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 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 doctorate degrees. Degree-granting institutions 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).

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 fourth 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.

More than 1,100 full-time teaching faculty comprise the University's academic departments, and the Fall 2021 enrollment was over 30,000 students, including almost 6,000 graduate students.

Mission, Vision, and Values of UNC Charlotte

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

University Mission Statement

As North Carolina's urban research university, UNC Charlotte is a diverse and inclusive institution with local-to-global impact that transforms lives, communities, and industries through access and affordability, exemplary bachelor's, master's, doctoral, and professional programs, scholarship, creative work, innovation, and service.

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.

- 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 65.6% of the full-time new freshmen who entered UNC Charlotte in Fall 2015 have received a baccalaureate from UNC Charlotte as of Fall 2021. In addition, another 2.7% were enrolled at UNC Charlotte in pursuit of their baccalaureate degree as of Fall 2021. This information is provided pursuant to requirements of the Student Right-to-Know and Campus Security Act of 1990.

Nondiscrimination

UNC Charlotte seeks to promote a fair, humane and respectful environment for its faculty, staff, students, contractors, and visitors. The University prohibits discrimination and harassment on the basis of race, color, religion, age, national origin, physical or mental disability, political affiliation, veteran status, genetic information, sex, sexual orientation, gender expression, or gender identity in its programs and activities, and in its employment and educational decisions.

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 legal.charlotte.edu/sites/legal.charlotte.edu/files/media/NondiscriminationNotice.pdf.

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, all report to the Chancellor.

Academic Affairs

The Division of Academic Affairs provides administrative oversight and academic leadership. It includes Academic Budget & Personnel, ADVANCE Faculty Affairs and Diversity Office, Assessment and Accreditation; Enrollment Management; the Graduate School; Institutional Research and Decision Support; International Programs; the Library; Office of OneIT; Office of Undergraduate Education; Research and Economic Development; School of Professional Studies; Urban Research and Community Engagement; and the seven discipline-based academic colleges: the Colleges of Arts + Architecture, Business, Computing and Informatics, Education, Engineering, Health and Human Services, and Liberal Arts & Sciences.

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 Technical Operations and Planning.

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 and Compliance, the Title IX Office, the Internal Audit Department, and Enterprise Risk Management.

Student Affairs

The Division of Student Affairs advances the educational mission of the University by creating inclusive student-centered learning environments where students excel academically and develop personally into their best selves. The Division of Student Affairs consists of the Center for Counseling and Psychological Services (CAPS); Center for Wellness Promotion; Cone University Center; Dean of Students Office; Housing and Residence Life; Leadership & Community Engagement; New Student and Family Services; Office of Fraternity and Sorority Life; Office of Identity, Equity & Engagement; Popp Martin Student Union; Student Activity Center and Venue Management; Student Affairs Research & Assessment; Student Assistance and Support Services; Student Conduct & Academic Integrity; Student Health Center; Student Involvement; Student Niner Media; 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 Affairs, Community Relations, Constituent Relations, University Communications, University Development, and University Events.

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.



Center City

UNC Charlotte Center City functions as a gateway to the entire University of North Carolina at Charlotte and as such embodies UNC Charlotte's urban identity in the heart of the greater Charlotte region. 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.



Academically, UNC Charlotte Center City facilitates programs having an urban awareness and context, while providing vital learning opportunities for employees and residents of the urban center. Operationally, it incorporates the attributes we wish to instill in the entire University: excellence in programming, responsiveness to stakeholders, entrepreneurship, interdisciplinary productivity, inclusively, flexibility, and efficiency.

Academic Buildings

Albert & Freeman

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 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 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 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

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 the 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 Evening Services, and Veteran Student Services.

Bioinformatics

The Bioinformatics Research Center opened in 2009 as a teaching and research building on the campus of the Charlotte Research Institute. It is a multifunctional facility which fosters an interdisciplinary academic and entrepreneurial program. The center also support 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.



Burson

Sherman Burson Jr. was the first Charles Stone Professor of Chemistry and the inaugural dean of the-then College of Arts and Sciences.

A native of Pittsburgh, Pa., Burson 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 Liberal Arts & 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.

Completed in summer 1985, the Sherman L. Burson Building was originally dedicated as the Physical Sciences Building. The 104,000-square-foot facility includes a 184-seat tiered lecture hall, a number of smaller lecture halls and laboratory space. Designed by Peterson Associates of Charlotte, the building was 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.



The Burson building's innovative architecture includes an extremely complex mechanical system which ensures safe exhaust of poisonous and noxious fumes. Today, Burson is home to the Department of Chemistry.

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 as 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 clean-room and 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 Undergraduate Admissions, the Graduate School and the Chancellor's Office, as well as internal audit and legal affairs.



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.

Today, Cato is home to Graduate and International Admissions; Graduate School; Chancellor's Office; Enrollment Management; Internal Audit; and Legal Affairs.

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; Public Policy program; Office of Undergraduate Education; University Advising Center; University College; Distance Education; Academic Diversity and Inclusion; Summer School; University Center for Academic Excellence; and the Urban Institute.



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, Center for Graduate Life, University Scholarship Office, Venture, Office of Fraternity and Sorority Life, and Mainstreet 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 1,300 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.



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 Charlotte Research Institute to advance technology, foster innovation, and drive economic growth in our region.

Duke Centennial is home to the College of Engineering and 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 Liberal Arts & 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 Liberal Arts & Sciences; Departments of English, Mathematics and Statistics, Political Science and Public Administration, and Sociology; American Studies, Liberal Studies, and Women's and Gender Studies programs; 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 become 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.

He 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 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 variety of research settings – electronics and optics, as well as pharmaceuticals and DVD manufacturing.



Today, Grigg is home to the Department of Physics and Optical Science and Charlotte Research Institute.

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 colorguard 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 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 Center for Teaching and Learning and Information Technology Services.

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, Human Resources, Office of the Registrar, SOAR, and Student Affairs.

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 and Culture Studies). 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.

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 Geography and Earth Science 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 Geography and Earth Sciences.

Memorial Hall

Memorial Hall is a 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 administrative offices, Bursar's Office, and the Office of Financial Aid.

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 Geography and Earth 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.



The Smith building is one of the five buildings that make up the original quad of UNC Charlotte. Today, Smith is home to the College of Engineering's Office of Student Development and Success and 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 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, and Software and 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.

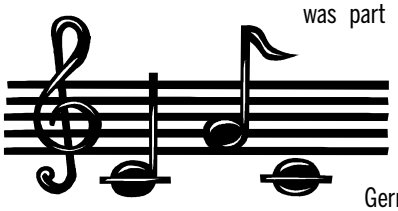
University Seal

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 College of Education 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 form 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@uncc.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@uncc.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: Official Scholastic Assessment Test (SAT) and/or American College Testing Program (ACT) scores are not required to complete an application for admission. However, students may choose to report their scores on their application if they feel that they will benefit them in the admissions process.

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)
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. A document evaluation is required 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, test scores, 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; and 2 units of the same *foreign language.* 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 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.

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.

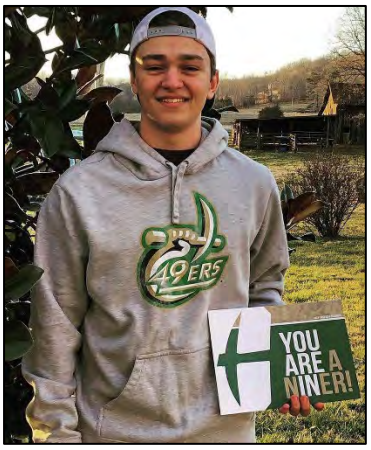
Second Baccalaureate Degree

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 Liberal Arts & Sciences have a language requirement.

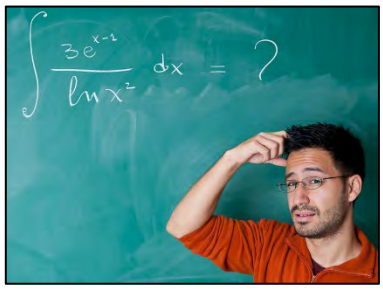
All students within these colleges are required to demonstrate proficiency in a language of their choice through at least the 1202 level. In order to meet this proficiency requirement, students may do one of the following:

- 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 Liberal Arts & Sciences)

Although all students in the College of Arts + Architecture and College of Liberal Arts & 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

Placement in WRDS 1104 and WRDS 1103 is based on High School performance and SAT/ACT scores. In the absence of SAT/ACT scores, students will be placed in WRDS 1104. Students can see which WRDS class they are slated to take on their Banner advising transcript. WR04 indicates that students should register for WRDS 1104. WR03 indicates that they should register for WRDS 1103.

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 Convocation

Student Orientation, Advising, and Registration (SOAR)

Once admitted, new undergraduate students are encouraged to participate in one of the Student Orientation, Advising, and Registration (SOAR) sessions scheduled during the Summer and 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. Activities include academic advising; introduction to academic support services, student organizations, and campus life; and registration for classes. Contact the Office of New Student and Family Services at 704-687-5509 or visit nsfs.charlotte.edu for additional information.



International Student Orientation

An orientation, held at the beginning of every semester, is required for non-resident (F-1 and J-1 visas) students. Orientation 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 Convocation

The New Student Convocation is a ceremony attended by faculty, first-year course instructors, and students to officially welcome and induct new undergraduate students into the UNC Charlotte community of learners. During the convocation ceremony, students learn about UNC Charlotte's history, mission, values, and academic expectations. Just as graduation marks the completion of a course of study, Convocation marks the beginning of the new students' academic journey at UNC Charlotte.

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

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.3 of the Code, the following conduct, or complicity in the following conduct, is considered Academic Misconduct under the Code:

A) **Cheating** 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, 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 - sharing the work or effort in an academic exercise with another individual or individuals without Authorization. See examples.

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

C) **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. See examples.

D) **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. See examples.

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

F) **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 self-plagiarism, which is the use of one's own previous work in another context without indicating that it was used previously. See examples.

G) **Research Misconduct** means a determination that Research Misconduct has occurred under University Policy 309, Responding to Allegations of Misconduct in Research and Scholarship and its Supplemental Procedures. (See Chapter 3, Section III of the Code.)

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, as it may be modified from time to time. Students are advised to contact the Dean of Students Office or visit legal.charlotte.edu/policies/up-407 to ensure they consult the most recent edition.

The Code of Student Responsibility

legal.charlotte.edu/policies/up-406

Philosophy and Purpose

The purpose of the Code 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.

The University is committed to providing a fair, impartial, and efficient process facilitated through compassionate conversations in which students are heard, respected, and treated with dignity. 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.

As with the scales of justice, the University's work in the area of student conduct is about balance. The University must balance students' free speech rights with the desire to protect the Campus community from discriminatory words and actions. The University acknowledges that higher education student conduct and disciplinary systems have, historically, contributed to systemic racism. Therefore, 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.

Prohibited Conduct, Procedures, and Sanctions

Chapter 5 of the Code (legal.charlotte.edu/policies/up-406#ch5) includes a list of behaviors that are prohibited by the Code, **including, but not limited to**, acts of harm (injury, harassment, relationship violence, etc.), weapons violations, disruption of University activities, drug violations, fire safety, misrepresentation, false identification, theft, vandalism, alcohol violations, sexual misconduct, trespassing, disorderly conduct, hazing, and retaliation. For a full explanation of all conduct prohibited under the Code, consult Chapter 5 of the Code at legal.charlotte.edu/policies/up-406#ch5.

Important Note: Any alleged conduct occurring on or after August 14, 2020 that meets the definition of one or more of the Title IX Violations (legal.charlotte.edu/policies/up-406#TIXViolations) is not considered Sexual and Interpersonal Misconduct under University Policy 406, Code of Student Responsibility. Alleged Title IX Violations occurring on or after August 14, 2020, are processed according to University Policy 504, Title IX Grievance Policy (legal.charlotte.edu/policies/up-504).

Chapter 6 of the Code (legal.charlotte.edu/policies/up-406#ch6) provides the process for case referrals and adjudication methods.

Chapter 7 of the Code (legal.charlotte.edu/policies/up-406#ch7) provides Conduct Procedures applicable for Formal Charge(s) adjudicated by a Hearing Panel or Administrative Hearing Officer under the Code.

Chapter 8 of the Code (legal.charlotte.edu/policies/up-406#ch8) provides additional Conduct Procedures applicable to alleged Sexual and Interpersonal Misconduct.

Chapter 10 of the Code (legal.charlotte.edu/policies/up-406#ch10) details possible sanctions imposed on Students or Student Organizations found responsible for violating the Code.

Chapter 11 of the Code (legal.charlotte.edu/policies/up-406#ch11) provides information on appeals.

A full explanation of prohibited conduct, 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, as it 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.

The Program to Prevent Use of Illegal Drugs and Alcohol Abuse

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 Center 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 the resources of the Center, the Center 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, Carolinas Medical Center Behavioral Health Services, Eastover Psychological and Psychiatric Group, The Insight Program, Alcoholics Anonymous, Narcotics Anonymous, Al-Anon, and 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.

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 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 on April 20, 2007, 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 honesty and ethical values.

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 diversity 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.

Nobility

A Niner shall exhibit the virtues and values listed above which befit all members of our Niner Nation.

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 or advisory committee 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

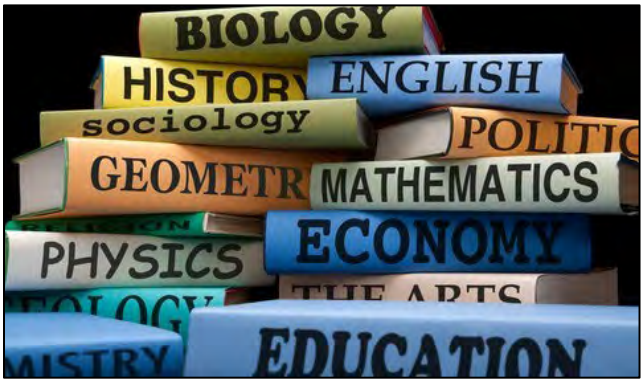
All baccalaureate degrees require completion of a common set of General Education requirements. Refer to the General Education Program section of this *Catalog*.

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. Exceptions to these hour provisions may be made upon the recommendation of the student's major department and with the approval of the dean of the college of the student's major. (Please note: earning 25% of the degree at UNC Charlotte cannot be waived due to the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) accreditation standards.) Coursework taken in residence shall be construed to mean work offered by UNC Charlotte.

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 central to UNC Charlotte's basic mission of providing all of its undergraduates with a liberal arts education. The Program approaches the liberal arts in its traditional meaning of learning the arts appropriate for living the educated, responsible life of a free (*liberālis*) citizen. It provides all undergraduate students, regardless of their majors, with the foundations of the liberal education they will need to be informed people who have the ability to act thoughtfully in society, the ability to make critical judgments, and the ability to enjoy a life dedicated to learning and the pleasures of intellectual and artistic pursuits.

The Program is designed to address five areas of liberal education. First, it helps students develop the foundational skills necessary for obtaining the full benefits of a college education: basic college-level writing, basic use of information technology, and basic college-level mathematical and logical skills. Second, it helps provide students with an understanding of the methods of scientific inquiry and the ways that knowledge is acquired and accredited in the life sciences, physical sciences, and social sciences. Third, the General Education Program addresses major themes related to living as a liberally educated person in the twenty-first century. Students take four Liberal Studies courses designed especially for the General Education Program. These courses are organized around major themes of liberal education: the arts and society, the Western cultural tradition, global understanding, ethical and cultural critique, and critical thinking and communication. Fourth, it helps students develop more specialized skills for disciplinary writing and oral presentations. Fifth, it helps students develop their ability to think critically and communicate clearly. 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 Advanced Academic Standing" heading later in this section for details.

I. Development of Fundamental Skills of Inquiry (9-10 credit hours)

First-Year Writing Courses (3-4 credit hours)

One first-year writing course is required. 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 able to write clearly and concisely in standard English and to be generally prepared to do 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)

Mathematical and Logical Reasoning (6 credit hours)

One 3 credit hour course in mathematics and a second 3 credit hour course selected from mathematics, statistics, deductive logic, or computer science are required.

Mathematics or Statistics

Select one of the following:
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)
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)

Mathematics, Statistics, or Deductive Logic

Select one of the following:
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 normally take MATH 1100, followed by either MATH 1102 or PHIL 2105.

Basic Skills of Information Technology

Incoming students are expected to have already developed the basic computer skills necessary to use word processing software, email, and the Internet. By the end of their first semester at UNC Charlotte, students are expected to have developed the basic skills necessary to find and evaluate information from the internet and bibliographic and database sources in Atkins Library. These skills are developed in WRDS 1103 and WRDS 1104, and help with bibliographical and database search skills is available in the Information Commons of the Library. Basic tutorial help is also available at campus computer labs. Students are expected to exhibit ethical behavior in the use of computers. More advanced information literacy and technology skills are required by individual departments and majors.

II. Inquiry in the Sciences (10 credit hours)

Natural Sciences (7 credit hours)

These courses introduce students to the methods of various science disciplines. They provide an understanding of the current scientific knowledge of the world, how that knowledge is secured, and how scientific knowledge changes over time.

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)
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)

Social Sciences (3 credit hours)

These courses introduce students to the methods of the social sciences and to the applications of these methods for gaining a scientific understanding of the social world.

Select one of the following:
ANTH 1101 - Introduction to Anthropology (3)
DTSC 1302 - Data and Society B (3)
ECON 1101 - Economics of Social Issues (3)
ECON 2101 - Principles of Economics - Macro (3)
ECON 2102 - Principles of Economics - Micro (3)
GEOG 1105 - The Location of Human Activity (3)
POLS 1110 - American Politics (3)
SOCY 1101 - Introduction to Sociology (3)
SOWK 1101 – The Field of Social Work (3)

III. Themes of Liberal Education for Private and Public Life (12 credit hours)

The UNC Charlotte faculty created a set of Liberal Studies (LBST) courses dedicated exclusively to General Education. These courses introduce students to fundamental themes and develop core competencies. All students take four LBST courses. All of these courses include the consideration of gender, race, and ethnic diversity, as appropriate for understanding the individual themes of these courses. Despite the fact that topics vary, and courses are offered from various departments, LBST courses may not be repeated for credit.

Arts and Society (3 credit hours)

One course in the Arts and Society is required. Art is indispensable to the structure and fabric of all societies, and each course examines this fundamental connection from the perspective of a specific art form.

Select one of the following:
LBST 1101 - The Arts and Society: Dance (3)
LBST 1102 - The Arts and Society: Film (3)
LBST 1103 - The Arts and Society: Music (3)
LBST 1104 - The Arts and Society: Theater (3)
LBST 1105 - The Arts and Society: Visual Arts (3)

Liberal Studies Courses (9 credit hours)

Three 2000-level LBST courses chosen from the four categories below are required. Individual departments MAY choose to allow students to count one of their LBST courses towards the requirements for the major. Students should consult the Academic Plan of Study for the major, the degree audit, and an advisor about whether double counting is allowed and to which particular courses the department's policy applies.

A) LBST 2101 - Western Cultural and Historical Awareness (3)
Each section of this course examines a major aspect of Western culture through the process of analyzing the present in terms of the past.

B) LBST 2102 - Global and Intercultural Connections (3)
All liberally educated people need to have the ability to understand the world from the point of view of more than one culture and be able to analyze issues from a global perspective.

C) LBST 221X - Ethical and Cultural Critique (Select ONE)
Each of these courses deals with an important contemporary issue, and each one gives significant attention to ethical analysis and cultural critique in the liberal arts.

Select one of the following:
LBST 2211 - Ethical Issues in Personal, Professional, and Public Life (3)
LBST 2212 - Literature and Culture (3)
LBST 2213 - Science, Technology, and Society (3)
LBST 2214 - Issues of Health and Quality of Life (3)
LBST 2215 - Citizenship (3) (SL)

D) LBST 2301 - Critical Thinking and Communication (3)

IV. Advanced Communication Skills (6-9 credit hours)

Writing in the Disciplines (W)

Select six credit hours, including at least three credit hours in the major. These courses are spread throughout the curriculum and are indicated with a (W) after the course title. These courses assume that students have already developed the basic grammatical and compositional skills

needed to write college-level English, and they build on these skills to develop writing strategies appropriate to the discipline of the department offering the course.

Oral Communication (O)

Select at least one course designated as an oral communication course. These courses are spread throughout the curriculum and are indicated with an (O) after the course title.

Note: If a course is designated as both a writing in the discipline course (W) and an oral communication course (O), a student may apply that course to both requirements.

V. Critical Thinking and Communication

This course continues the development of critical thinking and communication competencies begun 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 one General Education course that carries the Critical Thinking and Communication (CTC) attribute. Students meet this requirement by taking LBST 2301; it will be one of the three LBST courses at the 2000 level students take; they will choose two others.

LBST 2301 - Critical Thinking and Communication (3)

Notes:

- Students must pass WRDS 1103 or WRDS 1104 with a grade of C or above AND have Sophomore standing or higher to register for LBST 2301.

- Transfer students may or may not have met the Critical Thinking and Communication (CTC) requirement in courses taken at previous institutions.
  - Transfer students who HAVE met this requirement will have the CTC attribute applied to a course accepted for transfer credit at UNC Charlotte. These students SHOULD NOT take LBST 2301 as part of their General Education requirements.
  - Transfer students who HAVE NOT met this requirement MUST meet this requirement by taking LBST 2301; depending on transfer credit, they will choose additional LBST courses at the 2000 level in order to fulfill that requirement.

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 at 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 registrar.charlotte.edu/printable-calendar 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 all 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. To be considered for dual enrollment, students should submit the online graduate application for admission as a post-baccalaureate student, submit a Special Request to the Graduate School requesting permission to be considered for dual enrollment, and attach to the Special Request a program of study outlining the requirements of the first undergraduate degree. 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 the transient study 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 eleven other campuses: Belmont Abbey College; Central Piedmont Community College; Davidson College; Gaston College; Johnson & Wales University - Charlotte Campus; Livingstone College; Pfeiffer University; Queens University of Charlotte; Rowan Cabarrus Community College; Wingate University; and Winthrop University. 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 H (honors), 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 Honors or 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 are available through the secure student access pages of My UNC Charlotte online at my.charlotte.edu.

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 consistent 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, H, P, AU, or N. In computing the grade point average, only those credits attempted at UNC Charlotte or through the Greater Charlotte Consortium (GCC) 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:

Good 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.

Good 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 a "good academic standing warning." This indicates potential academic problems and is communicated to the student and to the student's advisor and major department(s). Good 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, H, 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, H, 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 2020; not enrolled Spring or Fall 2021; to enroll in Spring 2022, students must apply in Fall 2021.) Readmission is not automatic; students applying for readmission must meet the requirements of the major in which they wish to return. 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 grievances, see University Policy 411, "Student Grievance Procedure," online at legal.charlotte.edu/policies/up-411.

Transfer Credit and Advanced Academic Standing

Evaluation of transfer credits, advanced standing, CLEP, AP, Cambridge, and IB are coordinated through the Office of Undergraduate Admissions. Prospective students who desire further information about policies and procedures for awarding credit should contact the Office of Undergraduate Admissions or utilize the "Transfer Credit Advisor" tool online at admissions.charlotte.edu.

UNC Charlotte will accept appropriate undergraduate credits earned through AP, IB, CLEP, Cambridge, armed forces service schools, and college level courses completed prior to graduation from high school. In addition, UNC Charlotte will accept or transfer appropriate undergraduate credits earned at a college or university accredited by an accepted accrediting body or through credit by examination. Credit toward a degree is not awarded for Continuing Education Units (CEUs) or for remedial level college courses.

Advanced Placement Course Credit (AP)

The University will accept appropriate undergraduate credits earned through Advanced Placement Program Tests completed prior to graduation from high school. Students must request that official Advanced Placement test results be sent directly to the Office of Undergraduate Admissions for evaluation (UNC Charlotte code 5105). Prospective students who desire further information about policies and procedures for awarding credit should view score requirements and other related information at admissions.charlotte.edu. No more than 8 credit hours can be awarded for any single Advanced Placement exam.

International Baccalaureate Program (IB)

The University will award credit for subjects in which students score appropriate scores on the IB examinations. View score requirements at admissions.charlotte.edu.

Cambridge Exams

The University will award credit for subjects in which students score appropriate scores on Cambridge examinations. View score requirements at admissions.charlotte.edu.

College Level Examination Program (CLEP) General Examination

An undergraduate student may receive up to 23 credit hours of elective credit. CLEP credit will be awarded according to UNC Charlotte policy in place at the time of evaluation. View score requirements at admissions.charlotte.edu. The amount of CLEP credit that is applicable to a specific degree program is determined by the department offering the program.

Transfer Credit from Other Institutions

Official transcripts are evaluated in the Office of Undergraduate Admissions and the results are provided to the applicant and to the major department/college. Determining the applicability of transferred credits to major or program requirements is the responsibility of the department chairperson or program director. General rules governing transfer credit:

1) Only courses taken at a college or university accredited by an accepted accrediting body will be considered for transfer credit.
2) Provisional transfer credit may be granted for study at foreign institutions or a college or university not accredited by an accepted accrediting body, but must be validated by 30 credit hours of successful performance in residence at UNC Charlotte.
3) Courses for which credit is accepted must be appropriate for approved University programs and curricula in which the student is enrolled.
4) No credit below C level will be accepted; grade points and averages do not transfer.
5) Transfer credit is awarded only upon receipt in the UNC Charlotte Office of Undergraduate Admissions of an official transcript from the institution where the credit was earned.

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.

Credit from Two-Year Institutions

The University accepts a maximum of 64 credit hours from two-year institutions for undergraduate students. Remedial and technical courses will not transfer.

Transient Study

Courses undertaken by UNC Charlotte undergraduate degree students at

a 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 they are enrolled. A "Permit for Transient Study" form should be completed and filed in 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) The student must request that an official transcript be sent to the UNC Charlotte Office of the Registrar upon completion of the course. A form for this purpose is available in the Office of the Registrar at the institution where the course is taken.
4) Students in the College of Liberal Arts & Sciences and students in the University College are not permitted to take courses at another educational institution in the Fall or Spring semester if they are enrolled full-time (12 credits or more) at UNC Charlotte in the same semester, unless it is a course not offered at UNC Charlotte (e.g., American Sign Language).
5) Grades do not transfer.

Credit by Examination

A student currently enrolled at UNC Charlotte may pass a specially prepared challenge examination and receive credit for a University course without having to do the normal course work. The student contacts the chair of the department in which credit is sought to request administration of an examination. Since it may not be appropriate to award credit by examination for some courses, the decision to offer an examination is that of the department. If the chair authorizes an examination, the student is instructed to pay the required fee for credit by examination and to bring the receipt of payment to the examination. Hours earned through credit by examination will be indicated on the transcript, but no grade points will be awarded. Hours attempted will be assigned equal to the hours earned. Failure on such an examination will incur no grade point penalty or hours attempted. A department may allow a student to take examinations for courses not offered at UNC Charlotte, if it deems it appropriate to do so. No student may challenge a course for which either a passing or failing grade has been received at UNC Charlotte.

Credit for Military Training

The University will approve academic credit for military training equivalent to UNC Charlotte courses required for the students' major, minor, or General Education requirements. The credit must be approved by the student's major department chair, college dean, and the department that offers the course.

Documentation of the training, such as a license of completion, Joint Services Transcript, or notation on the student's DD Form 214, is required. The same requirements apply to transfer or military training credit approved by another institution. Contact the Office of the Registrar for further information.

Exemptions from 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:

1) Exemption from first-year writing (without credit) at another college or university
2) 64 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.)

Lower-Division Requirements

Some transfer students are exempt from the lower-division General Education requirements* if they are admitted to the University in Fall 2003 or thereafter. These include:

- Students from North Carolina Community Colleges who receive an Associate of Arts (AA), Associate of Science (AS), Associate of Fine Arts (AFA), or Associate of Engineering (AE) degree
- Students from North Carolina Community Colleges who have completed the 44 credit hour general education core. (Comprehensive Articulation Agreement, CAA)
- Students who graduate from a North Carolina Community College with an Associate of Applied Science (AAS) and enroll at UNC Charlotte in an approved 2+2 degree completion program (this exemption becomes invalid if the student changes programs)

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 Undergraduate Admissions. The criteria used in the evaluation will be the amount of college-level English, math, natural science, social science, and humanities course work that is included in the degree's curriculum. Curriculums that are more technical in nature or lack key features of the UNC Charlotte General Education core may not be approved for an exemption from lower-division General Education requirements, but individual courses will be accepted towards the UNC Charlotte requirements.

**"Lower-division General Education requirements" refers to courses in composition, mathematics and logic, natural and physical sciences, social sciences, liberal studies (LBST), critical thinking and communication, and three (3) credit hours designated as writing intensive and one to three (1 to 3) credit hours designated as oral communications. Students MUST still complete three credit hours in the major designated as Writing Intensive (W) to satisfy all General Education requirements for graduation.*

Critical Thinking and Communication (CTC) Requirement

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

Reverse Transfer

North Carolina's Reverse 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 Transfer program, UNC Charlotte will honor the degree to satisfy lower-division General Education requirements. All students, regardless of transfer status, will still have to take a "writing in the discipline" course in their major. 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/printable-calendar. 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 completing their degree requirements in May participate in the May ceremony. Students completing degrees in a summer term, as well as those completing in December, participate in the December ceremony. Undergraduate students who wish to attend commencement must attend the ceremony within their college. 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.



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 the 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. 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 student images and email addresses, 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 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 Evening Services
- 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
- Offices of Chairpersons of Departments
- Offices of Deans of Colleges
- Offices of Directors of Interdisciplinary Units
- Office of Provost
- Office of Chancellor
- 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 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 write the University Registrar, 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. The name and address of the Office that administers FERPA is:

Family Policy Compliance Office
U.S. Department of Education
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, and degrees and awards (including scholarships) received.

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 below 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 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.

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.

Following are tuition and required fees for 2022-2023. For a complete list, visit ninercentral.charlotte.edu.

UNDERGRADUATE TUITION AND FEES PER SEMESTER		
	1-5 Credit Hours	6+ Credit Hours
NC Resident Tuition (in-state)	$158.83 per credit hour	$158.83 per credit hour
Non-NC Resident Tuition (out-of-state)	$747.33 per credit hour	$747.33 per credit hour
Ed & Tech Fee	155.50	311.00
Food Service Facility Fee	10.00	10.00
University Fee	548.50	1097.00
49er Card Access Fee	7.50	7.50
Health Services Fee	111.75	167.50
Safety & Security Fee	15.00	30.00
Transportation Services Fee	77.50	77.50
UNC System Association Fee	0.15	0.25-0.50

UNDERGRADUATE EXAMPLE TOTALS PER SEMESTER	
	Full-Time Enrollment (12+ Credit Hours)
Resident Total Tuition & Fees (in-state)	$3607.00
Non- Resident Total Tuition & Fees (out-of-state)	$10942.00

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 Card Access Fee

This fee supports the University's 49er Card operations and support. The ID card 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 a replacement card 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.

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 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.*

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 Card.

A Meal Plan purchase provides these advantages:

- Convenience: One card 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 Crown Commons in the Student Union, SoVi in South Village Crossing, and many of the retail locations.



Overview of Meal Plans

All first-year students living on campus, regardless of their housing assignment, are required to purchase The Daily Plan. 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 Plans Policies, visit aux.charlotte.edu/dining/meal-plans.

Housing

Below are the 2022-2023 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 register their motor vehicle(s) 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.

The 2022-2023 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. Semester permits are available for those graduating in December or wish to only purchase one semester at a time.

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 24 hours weekdays, 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.

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 Perkins Loan
- Federal Supplemental Educational Opportunity Grant*
- Federal TEACH Grant
- Federal Work Study
- UNC Need-Based Grant*
- NC Education Lottery 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.

- North Carolina Education Lottery Scholarship (ELS)
- University of North Carolina Need-Based Grant

Institutional

Students that apply for financial aid by the established priority date of March 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
- Perkins Loan
- 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 current and prospective students to find and apply for scholarship opportunities, while serving as the single point of contact to students, parents, faculty, and staff with 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 1,500 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

Each year, UNC Charlotte awards more than 1,500 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 for a student to be considered. 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.

External 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 20 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

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, 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 at UNC Charlotte for middle-income students 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.

To learn more about these Honors Programs scholarships, visit honorscollege.charlotte.edu/honors-programs. Eligible students can access the application for these and all other University scholarships at scholarships.charlotte.edu.

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 check 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 or from having a hold placed on their account blocking them from receiving their transcript and diploma.

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 the Dean of Students.

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. Through education, expertise, and leadership, the College models excellence in teaching, scholarly and creative research, and performance in five creative disciplines: architecture, art and art history, dance, music, and theatre.

The primary mission of the College of Arts + Architecture is to promote the arts and design as engines of civic imagination and social equity 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, help build communities, and promote justice, equity, and inclusion.

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 arts and architecture have a long history of collaboration; they require analysis and interpretation of information and media, and they demand imagination regarding the realms of communication, technology, economic change, and diversity.

The College of Arts + Architecture consists of one school and four departments, which share basic educational values and academic aspirations:

- **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.

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 Criticism
- Art History
- Dance
- Music Performance
- Theatre

Undergraduate Certificates

- Dance
- Jazz

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 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)

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

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 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.

Course Requirements

Introductory Course (2 credit hours)

AAHP 2600 - Introductory Honors Seminar (2)

Elective Honors Courses (6 credit hours)

Select two courses from the following. Notes: For UWRT and LBST courses, they must be the Honors section (H) of these courses. Also, one of these courses is almost always WRDS 1103 (Honors section).

WRDS 1103 - Writing and Inquiry in Academic Contexts I and II (3)
LBST 1101 - The Arts and Society: Dance (3)
LBST 1102 - The Arts and Society: Film (3)
LBST 1103 - The Arts and Society: Music (3)
LBST 1104 - The Arts and Society: Theater (3)
LBST 1105 - The Arts and Society: Visual Arts (3)
LBST 2102 - Global and Intercultural Connections (3)
LBST 2211 - Ethical Issues in Personal, Professional, and Public Life (3)
LBST 2215 - Citizenship (3) (SL)
HONR 3700 - Honors College Topics (3)
HONR 3702 - Seminar in Cultural Values and Social Issues (3) (W)

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)

Thesis Course (3 credit hours)
AAHP 3900 - 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 3900. AAHP 3900 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. Please note: the Application to Candidacy process is undertaken during a student's penultimate semester (i.e., the semester before she or he enrolls in AAHP 3900). 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 3900. See coaa.charlotte.edu/college/honors for more details and the Application to Candidacy form.

Grade 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.

School of Architecture

soa.charlotte.edu

Undergraduate Programs

- B.A. in Architecture
- Minor in Architectural History and Criticism
- Early Entry: Master of Architecture (M.Arch.)

The mission of the School of Architecture (SoA) is to advance excellence in architectural education through innovative research, teaching, and design practices. The School seeks to further the discourse between the theory and practice of architecture through the education and training of students, the work and research of the faculty, and ongoing engagement with the University, the profession, and the community. Architecture encompasses the constructed environment at all scales.

To prepare undergraduate students to become future community and architectural leaders, the School of Architecture seeks to provide both a liberal and a professional education based on a holistic view of the built environment. The studio/seminar sequence in the Core Program emphasizes both writing and making to introduce students to alternative and complementary methods of investigating design problems. The professional degree path in the Advanced Program culminates in studios that emphasize self-direction and provide directed instruction on matters of importance to contemporary practice and theory, and includes courses in advanced building technology, professional practice, and digital practices.

Accreditation

The School of Architecture maintains accredited status through the National Architectural Accrediting Board, which reviews the curriculum, facility, faculty, and program resources annually. In addition, the NAAB conducts an intensive site visit every eight years. The School has maintained full accreditation standards as prescribed by this board and includes the following required 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."*

University of North Carolina at Charlotte, School of Architecture, offers the following NAAB-accredited degree programs:

- Master of Architecture (M.Arch.)
  - M.Arch. 1 Track (non-preprofessional degree + 96 credit hours)
  - M.Arch. 2 Track (pre-professional degree + 60 graduate credit hours)
  - M.Arch. Advanced Standing Track (UNC Charlotte pre-professional B.A. in Architecture + 40 credit hours)

Next accreditation visit for all programs: 2024.

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: theoretical concerns, urban design, landscape, representation, building technology, digital practice and fabrication, environmental issues, community practice, and constructional/making concerns. 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 and 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. 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. Work in this concentration focuses on the responsible material constraints of digital manufacturing techniques, the ways in which our methodologies are affected by computation, and the ways in which digital technology is changing the expectations for interaction in our designed spaces and urban conditions.

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 the Office for International Programs. 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

The undergraduate Bachelor of Arts in Architecture is a 4-year pre-professional foundation degree, which requires 128 credit hours. Students who wish to become registered architects must also earn a professional NAAB-accredited degree. Graduates of UNC Charlotte's B.A. in Architecture who maintain a 3.25 GPA may qualify for Advanced Standing in the Master of Architecture program, which leads to an accredited professional degree in a five-year timeframe (128+40). Information on the Master of Architecture degree program may be found in the *UNC Charlotte Graduate Catalog*.

Admission Requirements

Freshmen and Transfers

- *Minimum GPA*: n/a (Freshmen); 2.0 (Transfers)
- *Declaration of Major*: Applicants must first apply to UNC Charlotte indicating the Architecture major as their intended major. UNC Charlotte applications must be complete by January 31. Applicants must also submit a second application to the School of Architecture (SoA) by the posted deadlines. Students already enrolled at UNC Charlotte access the SoA Application from the School of Architecture's website. The SoA Undergraduate Admission Review includes an evaluation of the UNC Charlotte and SoA applications by a faculty committee with qualified applicants granted a personal interview (which will include a presentation of their portfolio of creative work). All SoA admission decisions are completed by April 1 for entry beginning in the Fall semester.

Undergraduate admission to the School of Architecture is to the four-year Bachelor of Arts in Architecture (B.A. in Architecture) -- a pre-professional foundation degree that serves as a foundation for the 12-month M.Arch. degree (Advanced Standing). There are also options for dual-degrees and post-professional graduate studies in Urban Design, Geography, Business/Real Estate Development, and Computing and Information Systems. Students who do not intend to pursue an accredited professional architecture degree may elect a modified undergraduate curriculum that allows greater academic flexibility.

Students who maintain a minimum GPA (3.25 in architectural studies through the Fourth Year) are automatically recommended for acceptance into the graduate Master of Architecture program. Students with an "automatic admit" to the Advanced Standing M.Arch. program may enter the Summer term following completion of the B.A. degree program, or may defer one year and enroll in the subsequent academic year. Students who do not have minimum GPA for the "automatic admit" must submit a separate application for admission to the graduate Master of Architecture program.

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 (37-41 credit hours)

For details on required courses, refer to the General Education program. 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)
PHYS 1101 - Introductory Physics I (3)
PHYS 1101L - Introductory Physics I Laboratory (1)

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.

Core Program

All undergraduate students in the School of Architecture complete a three-year core sequence of courses designed to provide a solid understanding of fundamental issues, knowledge, and skills related to architecture. These courses include a series of coordinated architecture design studios, skill-building seminars, a four-semester sequence of

architectural history (three survey courses and one history topic elective), and four courses in building technology (one course in Architectural Materials, two courses in Structures, and one course in Environmental Systems Principles). Students who do not intend to pursue an accredited professional degree (the M.Arch.) may complete only the Core Program and earn a non-pre-professional version of the Bachelor of Arts in Architecture. This alternative allows greater academic flexibility for students to augment their architectural studies with coursework from other University departments, allowing double major or minor in other disciplines, or preparation for graduate studies in related fields (such as planning, urban design, landscape architecture, or architectural history).

ARCH 1101 - Architecture Design Studio I (6)
ARCH 1102 - Architecture Design Studio II (5)
ARCH 1602 - Writing Reading Thinking Architecture (3)
ARCH 2101 - Architecture Design Studio III (3) (0)
ARCH 2102 - Architecture Design Studio IV (5)
ARCH 3101 - Architecture Design Studio V (5)
ARCH 3102 - Architecture Design Studio VI (3)
ARCH 4050 - Architecture Topics (1 to 4)
ARCH 4201 - Architectural History I (3)
ARCH 4202 - Architectural History II (3)
ARCH 4203 - Architectural History III (3)
ARCH 4204 - History/Theory Topics (3) (W)
ARCH 4301 - Material and Assembly Principles (5)
ARCH 4302 - Environmental Systems Principles (3)
ARCH 4303 - Structural Principles (3)
ARCH 4604 - Computational Methods (3)

Advanced Program
Students who intend to pursue an accredited professional degree (the M.Arch.) must complete the Advanced Program and earn a pre-professional version of the Bachelor of Arts in Architecture. This presents opportunities for greater depth of inquiry, breadth of understanding and synthesis through advanced architectural design and electives. Concentrated primarily in the Fourth Year of study, the Advanced Program includes an intensive building design studio in which students learn advanced computing skills, various topical design studios in which faculty steer focused research agendas, and additional courses in technology, history, and other topics that engage contemporary architecture. The following courses are not required for the B.A. in Architecture degree, but are required for subsequent accredited degrees, such as the Master of Architecture at UNC Charlotte:

ARCH 4050 - Architecture Topics (1 to 4)
ARCH 4204 - History/Theory Topics (3) (W)
ARCH 4101 - Architecture Studio VII: Advanced Building Design (5)
ARCH 4102 - Architecture Studio VIII: Topical (5)
ARCH 4304 - Structural Systems (3)
ARCH 4605 - Computational Practice (3)

Degree Total = 128 Credit Hours

Advising
The advising program consists of two tiers: Staff Academic Advisor (Core Program advising) and Associate Director (Advanced Program advising).

Grade Requirements
One grade of D in any studio is permissible. A second grade of D or F in a subsequent studio requires repeating the course. Successive D and/or F grades in a studio that is taken for a second time results in suspension from the Architecture program.

To graduate with a *Bachelor of Arts in Architecture* degree, an overall GPA of 2.0 must be achieved in all courses offered by the School.

Students may not repeat an ARCH course more than once. Students are permitted one opportunity to repeat any architecture course. Earning a grade of F in the same course twice results in suspension from the Architecture program.

Students who are suspended from the University due to deficiencies in their academic performance will be suspended from the Architecture program. If a student is readmitted to the University, they are not automatically readmitted into the Architecture program; they must appeal to the School of Architecture for reinstatement. Students who are readmitted to the University under the Forgiveness Policy must also appeal to the School of Architecture for reinstatement into the Architecture program.

Honors Program
For details about the Honors Program in Arts + Architecture, see the beginning of the College of Arts + Architecture section in this *Catalog.*

Minor in Architectural History and Criticism
The Minor in Architectural History and Criticism is open to students of any major and requires the completion of 18 credit hours of coursework. The requirements vary for architecture majors and non-majors.

Minor Requirements for Architecture Majors
Architecture majors must complete the requirements for the minor within their B.A. in Architecture 4-year degree.

Foundation Courses (6 credit hours)
Completion of the following courses with a grade of B or above is necessary to declare the minor. However, these 6 credit hours do not count towards the minor for architecture majors.

ARCH 4201 - Architectural History I: Prehistory-1750 (3)
ARCH 4202 - Architectural History II: 1750-Present (3)

Required Courses (12 credit hours)
For architecture majors, ARCH 4203 and ARCH 4204 may count towards both the minor and the major. -

ARCH 4203 - Architectural History III: Survey of Contemporary Theory (1950-Present) (3)
ARCH 4204 - History/Theory Topics (3) (W)
ARCH 4204 - History/Theory Topics (3) (W) *(repeated with change of topic)*
ARCH 4600 - Architectural History and Criticism Methodologies (3)

Elective Courses (6 credit hours)
Students with a Major in Architecture and Minor in Architectural History and Criticism must take an additional 6 credit hours of related

coursework selected from the list below. Special topics or other courses not on this list may be approved by the Academic Advisor for Architecture. One course may count towards both the Minor in Architectural History and Criticism and another minor.

AFRS 2105 - Black Images in the Media in the U.S. (3)
AFRS 2111 - Yoruba Language and Culture I (3)
AFRS 2112 - Yoruba Language and Culture II (3)
AFRS 2156 - African Civilization (3)
AFRS 2206 - African Literature, Music, and Art (3) (W)
AFRS 3121 - Contemporary African Art (3)
AFRS 3261 - Psychology of the Black Experience (3)
AFRS 4101 - Modern African Literature in English (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 2614 - Writing Seminar in Art History (3) (W)
ARTH 3001 - Topics in Art History (1 to 3)
ARTH 3121 - Contemporary African Art (3)
ARTH 3317 - Maya 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 3349 - Gothic Art (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)
ARTH 3810 - Independent Study in Art History (1 to 3)
ARTH 4212 - Contemporary Art Theory and Criticism (3)
ARTH 4601 - Problems in Pre-Columbian Art History (3) (O,W)
ARTH 4602 - Problems in African Art History (3)
ARTH 4603 - Problems in Ancient Art History (3) (O,W)
ARTH 4605 - Problems in Renaissance Art History (3) (O,W)
ARTH 4609 - Problems in Modern and Contemporary Art History (3) (O,W)
ENGL 2100 - Writing About Literature (3) (W)
ENGL 2106 - Film Criticism (3)
ENGL 4167 - The Mind and Language (3)
FRAN 2200 - French Civilization (3) (W)
FRAN 3003 - Advanced Topics in Francophone Studies (Arts and Literature) (3)
GEOG 2121 - Introduction to Development Studies (3)
GEOG 2165 - Patterns of World Urbanization (3) (O)
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) (W)
GEOG 3200 - Land Use Planning (3)
GEOG 3205 - Internal Structure of the City (3)
GEOG 4209 - Small Town Planning (3)
GERM 3050 - Topics in German Culture: German Culture (English) (3)
HIST 2000 - Topics in U.S. History (3)
HIST 2001 - Topics in European History (3)
HIST 2002 - Topics in Non-Western History (3)
HIST 2003 - Topics in Comparative History (3)
HIST 2004 - Topics in Applied History (3)
HIST 2005 - Introduction to Historical Studies (3) (O)
HIST 2090 - Topics in U.S. History (3) (W)
HIST 2091 - Topics in European History (3) (W)
HIST 2092 - Topics in Non-Western History (3) (W)
HIST 2093 - Topics in Comparative History (3) (W)
HIST 2094 - Topics in Applied History (3) (W)
HIST 2105 - American Slavery and Emancipation (3)
HIST 2110 - Technology and Science in Society I: Before the Industrial Revolution (3)
HIST 2111 - Technology and Science in Society II: Since the Industrial Revolution (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 2152 - European Women's and Gender History (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 2162 - African American Women's History to 1877 (3)
HIST 2163 - African American Women's History Since 1877 (3)
HIST 2170 - Latino/as in the United States, 1846 to Present (3)
HIST 2200 - Asian Civilization (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 2221 - History of Greece (3)
HIST 2222 - History of Rome (3)
HIST 2225 - Medieval Europe (3)
HIST 2226 - Renaissance and Reformation in Europe (3)
HIST 2230 - Life in the Middle Ages (3)
HIST 2235 - The Age of Revolutions in Europe, 1789 to 1917 (3)
HIST 2237 - Nineteenth Century Europe, 1814 to 1914 (3)
HIST 2240 - Twentieth Century Europe, 1914 to the Present (3)
HIST 2242 - Eastern Europe After 1945 (3)
HIST 2251 - Russian History from 1552 to 1861 (3)
HIST 2252 - Russian History from 1861 to the Present (3)
HIST 2260 - Britain to 1688 (3)
HIST 2261 - Britain Since 1688 (3)
HIST 2271 - Modern France (1774 to the Present) (3)
HIST 2281 - Modern Germany (3)
HIST 2297 - History of North Carolina, 1500 to the Present (3)
HIST 2400 - History Internship (1 to 3)
HIST 2600 - History Skills Seminar (3) (W)
HIST 3000 - Topics in U.S. History (3)
HIST 3001 - Topics in European History (3)
HIST 3002 - Topics in Non-Western History (3)
HIST 3003 - Topics in Comparative History (3)
HIST 3004 - Topics in Applied History (3)
HIST 3005 - Topics in Law and History (3)

HIST 3010 - Non-Western History and Culture through Film (3)
HIST 3011 - History and Culture through Film (3)
HIST 3090 - Topics in U.S. History (3) (W)
HIST 3091 - Topics in European History (3) (W)
HIST 3092 - Topics in Non-Western History (3) (W)
HIST 3093 - Topics in Comparative History (3) (W)
HIST 3094 - Topics in Applied History (3) (W)
HIST 3104 - Britain in the Age of Industry and Empire, 1815-1914 (3)
HIST 3105 - Europe in the Age of the French Revolution and Napoleon (3)
HIST 3140 - History of Ireland (3)
HIST 3141 - World War I (3)
HIST 3142 - World War II (3)
HIST 3147 - The Third Reich (3)
HIST 3148 - The Holocaust (3)
HIST 3154 - Globalization in African History (3)
HIST 3155 - Health and Healing in Africa (3)
HIST 3160 - History of Modern China (3)
HIST 3162 - Revolutionary Movements in Modern China (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 3171 - Comparative Genocide (3)
HIST 3172 - Political Repression and Rebellion in the Contemporary World (3)
HIST 3174 - Resistance and Adaptation: Indian Peoples Under Spanish Rule (3)
HIST 3175 - Reform, Riots, and Rebellions in Colonial Spanish America, 1692-1825 (3)
HIST 3176 - History of Mexico (3)
HIST 3177 - The Cuban Revolution (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) (W)
HIST 3190 - Slavery, Racism, and Colonialism in the African Diaspora (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 3239 - African American Music: History and Culture (3)
HIST 3240 - African Americans and the Legal Process (3)
HIST 3241 - United States Social History to 1860 (3)
HIST 3242 - United States Social History Since 1860 (3)
HIST 3252 - United States in the 20th Century, 1932 to the Present (3)
HIST 3255 - Democracy in America: A Historical Perspective (3)
HIST 3256 - United States Foreign Relations, 1901 to the Present (3)
HIST 3260 - The United States and Latin America (3)
HIST 3270 - History of Capitalism in the U.S. (3)
HIST 3275 - American Lives (3)
HIST 3280 - Blacks in Urban America (3)
HIST 3281 - American Cities (3)
HIST 3288 - Modern American West, 1800 to Present (3)
HIST 3289 - The Civil War and the American West (3)
HIST 3381 - Introduction to Museums and Historic Sites (3)
HIST 3382 - Introduction to Historic Preservation (3)
INTL 3111 - Politics and Culture in Literature (3) (W)
INTL 3112 - Globalization and Culture (3)
INTL 3116 - Cultures and Conflicts (3)
INTL 3117 - Narratives and Conflicts (3)
INTL 3127 - Global Media (3)
JAPN 2209 - Introduction to Japanese Civilization and Culture (3) (O)
JAPN 3140 - Anime and Japanese Popular Culture (3)
JAPN 3160 - Topics in Japanese Film (3) (W)
JOUR 2160 - Introduction to Journalism (3) (W)
JOUR 3163 - Visual Communication in Media (3)
LTAM 2117 - Cultures of the Caribbean (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) (W)
LTAM 3274 - Resistance and Adaptation: Indian Peoples Under Spanish Rule (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 3300 - Maya Art (3)
LTAM 3301 - Mexica (Aztec) Art (3)
LTAM 3302 - Andean Art (3)
LTAM 3313 - Pre-Columbian Art (3)
LTAM 3360 - Studies in Hispanic Film (3)
LTAM 4116 - Culture and Conflict in the Amazon (3)
LTAM 4317 - Topics in Hispanic Culture and Civilization (3)
MUSC 4298 - Jazz History (3) (W)
PHIL 3010 - Ancient Philosophy (3)
PHIL 3020 - Modern Philosophy (3)
PHIL 3030 - Twentieth-Century Philosophy (3)
PHIL 3110 - Medieval Philosophy (3)
PHIL 3120 - Nineteenth-Century Philosophy (3)
PHIL 3130 - American Philosophy (3)
PHIL 3140 - Existentialism (3)
PHIL 3170 - Major Figure in Philosophy (3)
PHIL 3220 - Aesthetics (3)
PHIL 3330 - Philosophy and Literature (3)
PHIL 3410 - Knowledge and Reality (3)
RELS 2108 - Religion in American Culture (3)
RELS 3163 - The Religious Art and Architecture of India (3)
RELS 3210 - Religion and Popular Culture (3)
RUSS 3209 - Russian Civilization and Culture (3) (W)
SOCY 2112 - Popular Culture (3)
WGST 2110 - Women and the Media (3)
WGST 3110 - Gender and Communication (3)
WGST 3220 - Feminist Thought (3) (W)
WGST 3221 - Feminist Thought (3)
WGST 4140 - African American Feminism (3)

Minor Requirements for Non-Architecture Majors

Foundation Courses (6 credit hours)

Completion of the following courses with a grade of B or above is necessary to declare the minor.

ARCH 4201 - Architectural History I: Prehistory-1750 (3)
ARCH 4202 - Architectural History II: 1750-Present (3)

Required Courses (12 credit hours)
Two of the following courses may be counted towards the Minor in Architectural History and Criticism and another major or minor.

ARCH 4203 - Architectural History III: Survey of Contemporary Theory (1950-Present) (3)
ARCH 4204 - History/Theory Topics (3) (W)
ARCH 4204 - History/Theory Topics (3) (W) *(repeated with change of topic)*
ARCH 4600 - Architectural History and Criticism Methodologies (3)

Total = 18 Credit Hours

Grade Requirements
Students must maintain a minimum GPA of 3.0 in all courses counted toward the minor.

Early Entry: Master of Architecture
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 98 undergraduate credit hours
- Minimum 3.25 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

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
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree

More Information
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
- Minimum high school GPA of 3.75 (on a 4.0 scale)
- Minimum score of 1220 on current SAT
- Completion of the School of Architecture's secondary application (including the submittal of a 6 to 10 page portfolio of creative work) and acceptance into the SoA

Continued Enrollment 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 (3.25 in the major) 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.

Double-Counted Courses
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).

More Information
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
Art and Art History

art.charlotte.edu

Undergraduate Programs

- B.A. in Art
- B.F.A. in Art
  - 3D Interdisciplinary Studies: Art in Space
  - Art Education
  - Digital Media
  - Illustration
  - Painting
  - Photography
  - Print Media
  - Cross-Disciplinary
- 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.

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 the common core 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

Freshmen and Transfers

- *Minimum GPA:*
  - New freshmen and transfers - N/A
  - Internal transfers (students already enrolled at UNC Charlotte) - minimum cumulative GPA of 2.0
- *Other:* All prospective studio students must apply for Art major status by submitting a digital portfolio of creative work to the department. Portfolios are reviewed once per year in the Spring semester.
- *Declaration of Major:* All freshmen seeking admission to the B.A. degree program must first submit a completed application for Fall admission to the University by January 31 to be eligible to submit a digital portfolio for consideration during the Priority Review in early March. Applicants who miss the January 31 deadline must submit a completed application for Fall admission to the University by March 1 to be eligible to submit a portfolio for consideration during the Space Available Review in mid-April. For the most current deadlines, refer to the Undergraduate Admissions website. Students who are not admitted may re-submit their portfolio the following year (only one resubmission is allowed).
- *Transferable Credit Hours*: Determined by UNC Charlotte Undergraduate Admissions. Students seeking to apply coursework taken at other institutions to the Art major must provide copies of the official course description and a syllabus for each course requested for consideration.

Students cannot take any studio course without having Art major status. All studio classes are reserved for Art 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 (35 credit hours)

For details on required courses, refer to the General Education program.

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 (39 credit hours)
Basic Foundation Studios (12 credit hours)
ARTB 1201 - 2D Design (3)
ARTB 1202 - 3D Design (3)
ARTB 1203 - Drawing 1 (3)
ARTB 1206 - Conceptual Practices (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 - Darkroom (3)

****Options for 2000-Level 3D Courses:*
ARTC 2171 - Ceramic Handbuilding (3)
ARTC 2172 - Ceramic Wheel I (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) (O, W)*

**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. Senior Seminar fulfills one of the two Writing Intensive (W) requirements in General Education, as well as the Oral Communication (O) requirement.*

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

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.

Grade 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.

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
Continuing Students
- *Minimum GPA:*
  - New freshmen and transfers - N/A
  - Internal transfers (students already enrolled at UNC Charlotte) - minimum cumulative GPA of 2.0
- *Pre-Major/Prerequisite Courses:* Art majors must successfully complete ARTB 1201, ARTB 1202, ARTB 1203, ARTB 1204, and ARTB 1206, and then may enroll in ARTA 3201 (this course 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.

- *Declaration of Major:* All freshmen seeking admission to the B.F.A. degree program must first submit a completed application for Fall admission to the University by January 31 to be eligible to submit a digital portfolio for consideration during the Priority Review in early March. Applicants who miss the January 31 deadline must submit a completed application for Fall admission to the University by March 1 to be eligible to submit a portfolio for consideration during the Space Available Review in mid-April. For the most current deadlines, refer to the Undergraduate Admissions website. Students who are not admitted may re-submit their portfolio the following year (only one resubmission is allowed). See above for Pre-major/Prerequisite Courses.

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 (35 credit hours)

For details on required courses, refer to the General Education program.

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 - Conceptual Practices (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) (O,W)
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 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 (0-3 credit hours)
As needed to complete the credit hours required for graduation.

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.

Grade 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.

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. Forms for the degree requirements and licensure requirements are available in the department office or online at art.charlotte.edu.

Admission Requirements
Continuing Students
- *Minimum GPA:* 2.7 overall GPA is required to apply to Teacher Education
- *Pre-Major/Prerequisite Courses:*
  - ARTE 2100 with grade of B or above
  - SPED 2100 with grade of C or above
- *Other:* Achieve passing scores on Praxis Core (or prove exemption via test scores)
- *Declaration of Major:* All applicants seeking admission to the B.F.A. program must be currently enrolled in the B.A. in Art degree program at UNC Charlotte (see the B.A. in Art for admission requirements). Students should complete the Application to Teacher Education, which includes a signed Professional Dispositions statement and clear criminal background check. Candidates then take ARTA 3201 (which may be repeated once). If completed successfully, students may begin upper-level coursework in Art and Education.
- *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 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.

Degree Requirements
College Prospect for Success Course (32 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 (32 credit hours)
For details on required courses, refer to the General Education program. Both Writing Intensive (W) courses and the Oral Communications (O) course are fulfilled by courses in the major.

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 (0-6 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 (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 - Conceptual Practices (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)

Studio Courses (21 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 - Darkroom (3)

Elective Studio Courses (15 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)
One elective course from any level, any studio area (3)
Two studio courses at the 3000-level from a single (i.e., the same) studio area (6)

BFA Portfolio Review Course (1 credit hour)
ARTA 3201 - BFA Portfolio Review (1)*

Concentration Courses (34 credit hours)
ARTE 2100 - Artists as Teachers (3)*
ARTE 3121 - Elementary Art Methods (3) (W)*
ARTE 3124 - Transcultural Identities and Art Education (3)*
ARTE 4122 - Secondary Art Methods (3) (O,W)*
ARTE 4125 - Creativity and Social and Emotional Learning in Art Education (3)
ARTE 4466 - Art Education Year-Long Internship (1)
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
As needed to complete the credit hours required for graduation.

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.

Grade Requirements
Students must receive a grade of C or above in all courses applied to the major (a grade of B or above is required in ARTE 2100 for students in the Concentration in Art Education). Students cannot advance to the next course in a sequence until a grade of C or above is earned in prerequisite courses (a grade of B or above is required in ARTE 2100 for students in the Concentration in Art Education).

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
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
Continuing Students
- *Minimum GPA:*
  - New freshmen and transfers - N/A
  - Internal transfers (students already enrolled at UNC Charlotte) - minimum cumulative GPA of 2.0
- *Pre-Major/Prerequisite Courses:* Art majors must successfully complete ARTB 1201, ARTB 1202, ARTB 1203, ARTB 1204, and ARTB 1206, and then may enroll in ARTA 3201 (this course 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.
- *Declaration of Major:* All freshmen seeking admission to the B.F.A. degree program must first submit a completed application for Fall admission to the University by January 31 to be eligible to submit a digital portfolio for consideration during the Priority Review in early March. Applicants who miss the January 31 deadline must submit a completed application for Fall admission to the University by March 1 to be eligible to submit a portfolio for consideration during the Space Available Review in mid-April. For the most current deadlines, refer to the Undergraduate Admissions website. Students who are not admitted may re-submit their portfolio the following year (only one resubmission is allowed). See above for Pre-major/Prerequisite Courses.

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 (35 credit hours)

For details on required courses, refer to the General Education program.

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 - Conceptual Practices (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)
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.

ARTM 3101 - Game Design and Graphics (3)
or ARTM 3102 - 3D Modeling and Animation (3)
or ARTM 3105 - Video Art (3)
ARTM 3205 - Interactive Art and Design (3)
ARTG 4xxx - UX/UI Design Strategies (3)
or ARTM 3005 - Topics in Digital Media (3)
or ARTM 3103 - Animation Production (3)
or ARTT 3390 - Digital Compositing (3)
or ARTZ 3306 - Advanced 3D Modeling and Digital Fabrication (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) (O,W)
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 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 (0-3 credit hours)

As needed to complete the credit hours required for graduation.

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.

Grade 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.

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

Continuing Students

- *Minimum GPA:*
  - New freshmen and transfers - N/A
  - Internal transfers (students already enrolled at UNC Charlotte) - minimum cumulative GPA of 2.0
- *Pre-Major/Prerequisite Courses:* Art majors must successfully complete ARTB 1201, ARTB 1202, ARTB 1203, ARTB 1204, and ARTB 1206, and then may enroll in ARTA 3201 (this course 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.
- *Declaration of Major:* All freshmen seeking admission to the B.F.A. degree program must first submit a completed application for Fall admission to the University by January 31 to be eligible to submit a digital portfolio for consideration during the Priority Review in early March. Applicants who miss the January 31 deadline must submit a completed application for Fall admission to the University by March 1 to be eligible to submit a portfolio for consideration during the Space Available Review in mid-April. For the most current deadlines, refer to the Undergraduate Admissions website. Students who are not admitted may re-submit their portfolio the following year (only one resubmission is allowed). See above for Pre-major/Prerequisite Courses.

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 (35 credit hours)

For details on required courses, refer to the General Education program.

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 - Conceptual Practices (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 (36 credit hours)

Concentration Introductory Studio Courses (15 credit hours)
ARTD 2134 - Figure Drawing I (3)
ARTD 2139 - Drawing II (3)
ARTL 2186 - Illustration 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 (21 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.

ARTL 3086 - Topics in Illustration (3)
or ARTP 3161 - Mixed Media Painting (3)
ARTD 3134 - Figure and Anatomy (3)
ARTL 3186 - Illustration: Media/Method (3)
ARTL 3187 - Children's Book Illustration (3)
ARTL 3188 - The Figure in Illustration (3)
ARTL 3286 - Illustration Sequence/Story (3)
ARTL 4981 - Illustration Projects (3)

Senior Experience (6 credit hours)
Students should take the following courses simultaneously:
ARTA 4600 - Senior Seminar (3) (O,W)
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 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 (0-3 credit hours)
As needed to complete the credit hours required for graduation.

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.

Grade 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.

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
Continuing Students
- *Minimum GPA:*
  - New freshmen and transfers - N/A
  - Internal transfers (students already enrolled at UNC Charlotte) - minimum cumulative GPA of 2.0
- *Pre-Major/Prerequisite Courses:* Art majors must successfully complete ARTB 1201, ARTB 1202, ARTB 1203, ARTB 1204, and ARTB 1206, and then may enroll in ARTA 3201 (this course 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.
- *Declaration of Major:* All freshmen seeking admission to the B.F.A. degree program must first submit a completed application for Fall admission to the University by January 31 to be eligible to submit a digital portfolio for consideration during the Priority Review in early March. Applicants who miss the January 31 deadline must submit a completed application for Fall admission to the University by March 1 to be eligible to submit a portfolio for consideration during the Space Available Review in mid-April. For the most current deadlines, refer to the Undergraduate Admissions website. Students who are not admitted may re-submit their portfolio the following year (only one resubmission is allowed). See above for Pre-major/Prerequisite Courses.

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 (35 credit hours)
For details on required courses, refer to the General Education program.

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 - Conceptual Practices (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) (O,W)
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 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 (0-3 credit hours)
As needed to complete the credit hours required for graduation.

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.

Grade 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.

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

Continuing Students

- *Minimum GPA:*
  - New freshmen and transfers - N/A
  - Internal transfers (students already enrolled at UNC Charlotte) - minimum cumulative GPA of 2.0
- *Pre-Major/Prerequisite Courses:* Art majors must successfully complete ARTB 1201, ARTB 1202, ARTB 1203, ARTB 1204, and ARTB 1206, and then may enroll in ARTA 3201 (this course 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.
- *Declaration of Major:* All freshmen seeking admission to the B.F.A. degree program must first submit a completed application for Fall admission to the University by January 31 to be eligible to submit a digital portfolio for consideration during the Priority Review in early March. Applicants who miss the January 31 deadline must submit a completed application for Fall admission to the University by March 1 to be eligible to submit a portfolio for consideration during the Space Available Review in mid-April. For the most current deadlines, refer to the Undergraduate Admissions website. Students who are not admitted may re-submit their portfolio the following year (only one resubmission is allowed). See above for Pre-major/Prerequisite Courses.

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 (35 credit hours)

For details on required courses, refer to the General Education program.

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 - Conceptual Practices (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 - Darkroom (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 (3)
ARTT 3191 - Camera and Light (3)
ARTT 3xxx – Art: Photography Elective 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) (O,W)
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 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 (0-3 credit hours)
As needed to complete the credit hours required for graduation.

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.

Grade 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.

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
Continuing Students
- *Minimum GPA:*
  - New freshmen and transfers - N/A
  - Internal transfers (students already enrolled at UNC Charlotte) - minimum cumulative GPA of 2.0
- *Pre-Major/Prerequisite Courses:* Art majors must successfully complete ARTB 1201, ARTB 1202, ARTB 1203, ARTB 1204, and ARTB 1206, and then may enroll in ARTA 3201 (this course 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.
- *Declaration of Major:* All freshmen seeking admission to the B.F.A. degree program must first submit a completed application for Fall admission to the University by January 31 to be eligible to submit a digital portfolio for consideration during the Priority Review in early March. Applicants who miss the January 31 deadline must submit a completed application for Fall admission to the University by March 1 to be eligible to submit a portfolio for consideration during the Space Available Review in mid-April. For the most current deadlines, refer to the Undergraduate Admissions website. Students who are not admitted may re-submit their portfolio the following year (only one resubmission is allowed). See above for Pre-major/Prerequisite Courses.

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 (35 credit hours)
For details on required courses, refer to the General Education program.

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 - Conceptual Practices (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) (O,W)
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 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 (0-3 credit hours)

As needed to complete the credit hours required for graduation.

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.

Grade 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.

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 Cross-Disciplinary Arts

This Bachelor of Fine Arts (B.F.A.) in Art provides in-depth study in the concentration area. ***Pre-approval is required from the department for the Cross-Disciplinary concentration.*** 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

Continuing Students

- *Minimum GPA:*
  - New freshmen and transfers - N/A
  - Internal transfers (students already enrolled at UNC Charlotte) - minimum cumulative GPA of 2.0
- *Pre-Major/Prerequisite Courses:* Art majors must successfully complete ARTB 1201, ARTB 1202, ARTB 1203, ARTB 1204, and ARTB 1206, and then may enroll in ARTA 3201 (this course 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.
- *Declaration of Major:* All freshmen seeking admission to the B.F.A. degree program must first submit a completed application for Fall admission to the University by January 31 to be eligible to submit a digital portfolio for consideration during the Priority Review in early March. Applicants who miss the January 31 deadline must submit a completed application for Fall admission to the University by March 1 to be eligible to submit a portfolio for consideration during the Space Available Review in mid-April. For the most current deadlines, refer to the Undergraduate Admissions website. Students who are not admitted may re-submit their portfolio the following year (only one resubmission is allowed). See above for Pre-major/Prerequisite Courses.

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 (35 credit hours)

For details on required courses, refer to the General Education program.

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 - Conceptual Practices (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)
See Academic Advisor.

Concentration Advanced Studio Courses (15 credit hours)
See Academic Advisor.

Senior Experience (9 credit hours)

Students should take the following courses simultaneously:
ARTA 4600 - Senior Seminar (3) (O,W)
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 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 (0-3 credit hours)
As needed to complete the credit hours required for graduation.

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.

Grade Requirements
To graduate with a B.F.A. in Art with Concentration in Cross-Disciplinary Arts, 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 Arts in Art History
The Bachelor of Arts (B.A.) in Art History requires 120 credit hours.

Admission Requirements
Freshmen and Transfers

- *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.

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.

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 (37-41 credit hours)
For details on required courses, refer to the General Education program.

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 (15 credit hours)
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) (W)
ARTH 3114 - Art History Methods (3)
or ARTH 3115 - Honors 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.

Restricted Elective Courses (18 credit hours)
Select from at least four different content areas listed below. A maximum of 6 credit hours of 2000-level courses is permitted.

Pre-Columbian Art Elective Courses
ARTH 2003 - Pre-Columbian Art (3)
ARTH 3318 - Mexica (Aztec) Art (3)

African Art Elective Courses
ARTH 2121 - Contemporary African Art (3)
ARTH 3328 - West African Art and Display (3)

Ancient Art Elective Courses
ARTH 3320 - Ancient Egypt and Near Eastern Art (3)
ARTH 3322 - Ancient Greek Art (3)
ARTH 3323 - Ancient Roman Art I (3)
ARTH 3324 - Ancient Roman Art II (3)

Early Modern Art Elective Courses
ARTH 2140 - Medieval Art (3)
ARTH 3349 - Gothic Art (3)
ARTH 3350 - Northern Renaissance Art (3)
ARTH 3351 - Italian Renaissance Art (3)
ARTH 3360 - Northern Baroque Art (3)

Modern and Contemporary Art Elective Courses
ARTH 3100 - Field Study in Visual Art (3)

ARTH 3381 - Modernism (3)
ARTH 3393 - History of Photography (3)
ARTH 3395 - African American Art (3)

Senior Seminar (3 credit hours)
Select one of the following:
ARTH 4601 - Problems in Pre-Columbian Art History (3)
ARTH 4602 - Problems in African Art History (3)
ARTH 4603 - Problems in Ancient Art History (3)
ARTH 4605 - Problems in Renaissance Art History (3)
ARTH 4609 - Problems in Modern and Contemporary Art History (3)

Related Courses (3 credit hours)
Select one of the following:*
AFRS 2105 - Black Images in the Media (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 3160 - Survey of German Film (3)
GREK 3800 - Directed Individual Reading (3)
HIST 2130 - Introduction to Historic Preservation - (3)
HIST 2135 - Introduction to Museums and Historic Sites (3)
HIST 3010 - History and Culture Through Film, Non-Western (3)
HIST 3011 - History and Culture Through Film (3)
HIST 3281 - American Cities (3)
LTAM 3360 - Studies in Hispanic Film (3)
PHIL 3220 - Aesthetics (3)
POLS 3104 - Mass Media (3)
RELS 3101 - Greek Myths and Religions (3)
RELS 3163 - The Religious Art and Architecture of India (3)
RELS 4127 - Material Christianity (3)
RUSS 3203 - Russian Civilizations and Culture (3)
SOCY 2112 - Popular Culture - (3)
THEA 2130 - Theatre History I (3)
THEA 2131 - 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 (41-47 credit hours)
As needed to complete the credit hours required for graduation.

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.

Grade 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.

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. The degree requires 78 credit hours of courses in the department, and many 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, as that will delay time to graduation. A four-year schedule of the major is available online or from the department academic advisor.

Admission Requirements
Freshmen, Transfers, and Current UNC Charlotte Students not Majoring in Art

- *Minimum Cumulative GPA:* 2.0 (for current UNC Charlotte students)
- *Other:* 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 into the Graphic Design major for Fall semesters only. These students cannot declare a Graphic Design major in Spring semesters.

Current UNC Charlotte Students with Major in Art
- *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 (35 credit hours)
For details on required courses, refer to the General Education Program.

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)
Basic Foundation Studios (12 credit hours)
ARTB 1201 - 2D Design (3)
ARTB 1202 - 3D Design (3)
ARTB 1203 - Drawing I (3)
ARTB 1204 - Digital Foundations (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, ARTF, ARTZ (3)
2000-level elective with any of these prefixes (different from first choice): ARTC, ARTF, ARTZ (3)
2000-level elective from any studio art concentration; ARTL, ARTR, and ARTT recommended (3)

Intermediate Major Courses (15 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)
ARTM XXXX - Digital Media Elective (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 (6 credit hours)
Two 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, you may choose an internship, or independent study. Art History and Art Education courses do not count towards these requirements. Graphic Design majors are recommended to take courses with these prefixes: ARTL, ARTP, ARTR or ARTM, and/or to complete a graphic design internship for credit.

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) (O,W)

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade 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 (candidate must meet GPA requirements to apply to program and maintain them to graduate with the departmental honors designation).

Additionally, to receive Honors in Art History, a candidate must:

- Approach an Art History faculty member with their desire to apply to the program and discuss your 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

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

Grade Requirements

Students must earn a grade of D or above in all courses applied toward the Minor in Art History.

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 Advanced Dance 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, committed to equity and inclusion. 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 the Arts + Architecture; study abroad opportunities; and the activities of a vibrant campus and the bustling, arts-minded city of Charlotte. The program is accredited by the National Association of Schools of Dance.

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 diverse 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, jazz, West African, African-Brazilian, and classical Indian dance. Students work with guest artists, faculty, and other students to perform in a 360-seat theatre, studio theatre, and in dance for the camera 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 Southeast 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

- ***Declaration of Major:*** Students may declare the major at any time.
- ***Progression Requirement:*** Students complete a formal review in their third semester for continued status in the Major in Dance.
- ***Transferable Credit Hours:*** Determined by UNC Charlotte Undergraduate Admissions.

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 46-47 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.

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 Requirement (37-41 credit hours)

For details on required courses, refer to the General Education Program. One Writing Intensive (W) course is fulfilled by courses in the major. The Oral Communication (O) course may be fulfilled by courses in the major. Students in this major should take the following course that meets general education requirements and also satisfies requirements in the major:

LBST 1101 - The Arts and Society: Dance (3)

Foreign Language Requirement (0-8 credit hours)
Students in this major 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 (43-44 credit hours)
Movement Practice Courses (22-23 credit hours)
African Diaspora Courses (6 credit hours)
DANC 2226 - Vintage Jazz Dance (2)
DANC 2125 - African Dance (2)
or DANC 2128 - African-Brazilian Dance (2)
DANC 2126 - Tap Dance (2)
or DANC 2130 - Hip-Hop Dance (2)

Ballet Courses (6 credit hours)
DANC 1209 - Ballet for Majors IA (2)
DANC 1210 - Ballet for Majors IB (2)
DANC 2209 - Ballet for Majors IIA (2)
or DANC 2210 - Ballet for Majors IIB (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 (5 credit hours)
DANC 3252 - Ring Shout Dance Traditions (3)
DANC 3253 - Black Dance in the Americas (2)

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 (8 credit hours)
DANC 1280 - Improvisation (2)
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) (W)
or DANC 3222 - Dance History, Theory, and Critical Thinking II (3)
DANC 3227 - Ballet Pedagogy (3) (O)
or DANC 3328 - Teaching Dance: Theories and Practices (3) (O)
or DANC 3250 - Dance in Community (3) (O)
or DANC 4110 - Communicating Across the Dance Discipline (3) (W)

Performance and Production Courses (2 credit hours)
DANC 2401 - Production Practicum - Dance Running Crew (1)
DANC 2402 - Performance Practicum (1)
or DANC 2403 - Dancing for Choreographers (1)

Music Fundamentals Course (2 credit hours)
DANC 2228 - Music and Dance (2)

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade Requirements
All DANC courses must be completed with no more than one grade of D and a major GPA of at least 2.75. Students must also have an overall (cumulative) 2.5 GPA or above.

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
Freshmen
- ***Pre-Major:*** Students seeking K-12 Dance 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 and Progression Requirements:*** Students seeking K-12 Dance Education licensure must first earn a grade of C or above in EDUC 2100 and SPED 2100, have a cumulative GPA of 2.7, achieve passing scores on Praxis Core (or prove exemption via test scores), and complete the Application to Teacher Education, which includes a signed Professional Dispositions statement and clear criminal background check. Students are also required to complete a formal review in their third semester for continued status as a Dance Major. To progress to student teaching, students must earn a minimum 2.75 GPA in all Dance and Education courses and a minimum 2.5 GPA overall.

Transfers
- ***Pre-Major:*** The semester in which transfer students seeking K-12 Dance Education Licensure are eligible to declare the Concentration in Dance Education will be determined in consultation with their academic advisor.
- ***Declaration of Major and Progression Requirements:*** Students seeking K-12 Dance Education licensure must first earn a C or better in EDUC 2100 and SPED 2100, have a cumulative GPA of 2.7, achieve passing scores on Praxis Core (or prove exemption via test scores), and complete the Application to Teacher Education which includes a signed Professional Dispositions statement and clear criminal background check. Students are also required to complete a formal review in their third semester for continued status as a Dance major. To progress to student teaching, students must earn a minimum 2.75 GPA in all Dance and Education courses and a minimum 2.5 GPA overall.

- ***Transferable Credit Hours:*** Determined by UNC Charlotte Undergraduate Admissions.

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 (32 credit hours)

For details on required courses, refer to the General Education Program. Both Writing Intensive (W) courses and the Oral Communication (O) course are fulfilled by courses in the major. Students in this major should take the following course that meets General Education requirements and also satisfies requirements in the major:

LBST 1101 - The Arts and Society: Dance (3)

Foreign Language Requirement (0-6 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)

Movement Practice Courses (18 credit hours)

African Diaspora Courses (6 credit hours)

DANC 2226 - Vintage Jazz Dance (2)
DANC 2125 - African Dance (2)
or DANC 2128 - African-Brazilian Dance (2)
DANC 2126 - Tap Dance (2)
or DANC 2130 - Hip-Hop Dance (2)

Ballet Courses (6 credit hours)

DANC 1209 - Ballet for Majors IA (2)
DANC 1210 - Ballet for Majors IB (2)
DANC 2209 - Ballet for Majors IIA (2)
or DANC 2210 - Ballet for Majors IIB (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 (8 credit hours)

DANC 1280 - Improvisation (2)
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) (W)
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) (O)
DANC 3328 - Teaching Dance: Theories and Practices (3) (O)
DANC 3250 - Dance in Community (3) (O)

Performance and Production Courses (2 credit hours)

DANC 2401 - Production Practicum - Dance Running Crew (1)
DANC 2402 - Performance Practicum (1)
or DANC 2403 - Dancing for Choreographers (1)

Music Fundamentals Course (2 credit hours)

DANC 2228 - Music and Dance (2)

Concentration Courses (36 credit hours)

DANC 3232 - Digital Skills for Artists (3)
or EIST 4100 - Computer Applications in Education (3)
DANC 4227 - Dance Education Methods for the Elementary School (3)
DANC 4257 - Dance Education Methods for the Secondary School (3) (W)
DANC 4466 - Dance Curriculum Design (3)
DANC 4467 - Student Teaching/Seminar: K-12 Fine and Performing Arts: Dance (12) (O)
EDUC 2100 - Foundations of Education and Diversity in Schools (3)
EDUC 4290 - Modifying Instruction for Learners with Diverse Needs (3)
SPED 2100 - Introduction to Students with Special Needs (3)
ELED 3120 - The Elementary School Child (3)
or MDLG 3130 - The Early Adolescent Learner (3)
or SECD 4140 - Adolescence and Secondary Schools (3)

Unrestricted Elective Courses

As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade Requirements

All Dance and Education courses must be completed with a grade of C or above, with no more than one grade of D in Dance courses. A GPA of 2.75 or above in all required Dance Education Concentration courses. Students must also have an overall (cumulative) GPA of 2.5 or above. Additionally, to meet the requirements for this concentration, a second-year review must be passed in the third semester of study. Students must earn a grade of B or above in student teaching 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.

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

- *Declaration of Major:* Students may declare the major at any time.
- *Progression Requirement:* Students complete a formal review in their third semester for continued status in the Major in Dance.
- *Transferable Credit Hours:* Determined by UNC Charlotte Undergraduate Admissions.

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.

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 (37-41 credit hours)

For details on required courses, refer to the General Education Program. Both Writing Intensive (W) courses are fulfilled by courses in the major. The Oral Communication (O) course may be fulfilled by courses in the major. Students in this major should take the following course that meets General Education requirements and also satisfies requirements in the major:

LBST 1101 - The Arts and Society: Dance (3)

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 (52-53 credit hours)

Movement Practice Courses (22-23 credit hours)

African Diaspora Courses (6 credit hours)
DANC 2226 - Vintage Jazz Dance (2)
DANC 2125 - African Dance (2)
or DANC 2128 - African-Brazilian Dance (2)
DANC 2126 - Tap Dance (2)
or DANC 2130 - Hip-Hop Dance (2)

Ballet Courses (6 credit hours)
DANC 1209 - Ballet for Majors IA (2)
DANC 1210 - Ballet for Majors IB (2)
DANC 2209 - Ballet for Majors IIA (2)
or DANC 2210 - Ballet for Majors IIB (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 (5 credit hours)
DANC 3252 - Ring Shout Dance Traditions (3)
DANC 3253 - Black Dance in the Americas (2)

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 (8 credit hours)

DANC 1280 - Improvisation (2)
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) (W)
DANC 3222 - Dance History, Theory, and Critical Thinking II (3)
DANC 4110 - Communicating Across the Dance Discipline (3) (W)

Dance Pedagogy Course (3 credit hours)

Select one of the following:
DANC 3227 - Ballet Pedagogy (3) (O)
DANC 3250 - Dance in Community (3) (O)
DANC 3328 - Teaching Dance: Theories and Practices (3) (O)

Performance and Production Courses (5 credit hours)

Performance Courses (3 credit hours)
Select a total of 3 credit hours from the following repeatable courses:
DANC 2402 - Performance Practicum (1)
DANC 2403 - Dancing for Choreographers (1)

Production Courses (2 credit hours)
DANC 2401 - Production Practicum - Dance Running Crew (1)
THEA 2400 - Core-Level Production Practicum (1)

Music Fundamentals Course (2 credit hours)

DANC 2228 - Music and Dance (2)

Unrestricted Elective Courses

As needed to complete the credit hours required for graduation. Students may choose to pursue a minor or second major.

Degree Total = 120 Credit Hours

Grade Requirements
All DANC courses must be completed with no more than one grade of D and a major GPA of at least 2.75. Students must also have an overall (cumulative) 2.5 GPA or above.

Honors Program
For details about the Honors Program in Arts + Architecture, see the beginning of the College of Arts + Architecture section.

Minor in Dance
Minor Requirements
A Minor in Dance consists of 23-24 credit hours.

Dance Core Courses (8 credit hours)
DANC 1212 - Ballet I (2)
DANC 1214 - Modern Dance I (2)
DANC 2125 - African Dance (2)
DANC 2226 - Vintage Jazz Dance (2)

Dance Theory Courses (5-6 credit hours)
Select two from the following:
DANC 2119 - Anatomy for Dancers (3)
DANC 2228 - Music and Dance (2)
LBST 1101 - The Arts and Society: Dance (3)

Dance Production Courses (2 credit hours)
Select from the following:
DANC 2401 - Production Practicum – Dance Running Crew (1)
DANC 2402 - Performance Practicum (1) *(may be repeated)*
DANC 2403 - Dancing for Choreographers (1)
THEA 2401 - Production Practicum (1) *(may be repeated)*

Dance Elective Courses (8 credit hours)
Select from the following:
DANC 1108 - Yoga (2)
DANC 1109 - Pilates (2)
DANC 2126 - Tap Dance (2)
DANC 2127 - Latin Dance Forms (2)
DANC 2227 - Contemporary Jazz Dance (2)
DANC 2403 - Dancing for Choreographers (1)
DANC 3100 - Pointe (2)
DANC 3229 - Contact Improvisation (2)

Among the possibilities for dance elective courses are non-major courses that "may be repeated for credit" and DANC 4001 (Special Topics) courses.

Total = 23-24 Credit Hours

Grade Requirements
All DANC courses must be completed with no more than one grade of D and a Minor in Dance GPA of at least 2.75.

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, Jean-Pierre Bonnefoux, and Associate Director, Patricia McBride, include both classical and contemporary works in the repertory.

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 = 16 Credit Hours

Undergraduate Certificate in Advanced Dance 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.

Certificate Requirements
The certificate requires 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 Practicum Courses (2 credit hours)
DANC 2402 - Performance Practicum (1)
DANC 3402 - Performance Practicum (1)

Career Preparation Courses (6 credit hours)
DANC 3232 - Digital Skills for Artists (3) *(May be counted toward the requirements for the Dance Education concentration)*
DANC 4401 - Dance Teaching Practicum (3)

Leadership Course (3 credit hours)
Select one of the following:
COMM 3136 - Leadership, Service, and Ethics (3)

DANC 3250 - Dance in Community (3) (O)
THEA 2221 - Stage Management (3)
Other course with a Service Learning (SL) designation

Capstone Courses (6 credit hours)
Students should complete DANC 4601 for 3 credit hours in the semester prior to DANC 4800 as preparation for the capstone project.

DANC 4601 - Individual Project (1 to 6)
DANC 4800 - Dance Capstone Project (3)

Certificate Total = 21 Credit Hours

Department of Music

music.charlotte.edu

Undergraduate Programs

- B.A. in Music
- 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. They 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-Mecklenburg region.

Partnerships with local arts organizations such as the Charlotte Symphony Orchestra and Opera Carolina allow our students to take masterclasses with world-renowned visiting artists, and even 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 an associate 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.

Admission Requirements

All students who wish to major or minor in music must audition and complete a series of placement examinations prior to 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

The Bachelor of Arts in Music degree is designed for students who want to combine intensive training in music with the exploration of other disciplines.

Admission Requirements

Freshmen and Transfers

- *Minimum GPA:* n/a
- *Declaration of Major*: Students are first admitted as Pre-Music majors. A formal audition is required for acceptance as a Music major (see the department website for audition dates). If the student is approved for acceptance after the audition, their major is changed to Music and they may proceed with major coursework.
- *Progression Requirements:* 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 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 any major courses at the 3000 or 4000 level.
- *Transferable Credit Hours:* Determined by UNC Charlotte Undergraduate Admissions.

Degree Requirements

The curriculum consists of 39 credit hours of General Education, including Foreign Language; 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 private 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 credit hours)
For details on required courses, refer to the General Education program. Writing Intensive (W) courses and the Oral Communications (O) course are fulfilled by the Music History courses in the major.

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 (41 credit hours)
Musicianship Courses (23 credit hours)
MUSC 1230 - Structure and Style of Music I (2)
MUSC 1230L - Aural Skills and Sight-Singing I (1)
MUSC 1231 - Structure and Style of Music II (2)
MUSC 1231L - Aural Skills and Sight-Singing II (1)
MUSC 1233 - Class Piano I (1)
MUSC 1234 - Class Piano II (1)
MUSC 2230 - Structure and Style of Music III (2)
MUSC 2230L - Aural Skills and Sight-Singing III (1)
MUSC 2231 - Structure and Style of Music IV (2)
MUSC 2231L - Aural Skills and Sight-Singing IV (1)
MUSC 3170 - Music History I (3) (W)
MUSC 3171 - Music History II (3) (O)
MUSC 4410 - Senior Music Internship (2 to 4) (W) *(a minimum of 3 credit hours is required)*
or MUSC 4800 - Senior Project Preparation (1 to 3) (W) *(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 (2)

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 used to complete a Minor or Second Major.

Unrestricted Elective Courses (8 credit hours)
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade 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 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
- *Minimum GPA:* n/a
- *Declaration of Major*. Students are first admitted as Pre-Music majors. A formal audition is required for acceptance as a Music major (see the department website for audition dates). If the student is approved for acceptance after the audition, their major is changed to Music and they may proceed with major coursework.
- *Progression Requirements:* 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 any major courses at the 3000 or 4000 level.
- *Transferable Credit Hours:* Determined by UNC Charlotte Undergraduate Admissions.

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 credit hours)
For details on required courses, refer to the General Education program. Both Writing Intensive (W) courses and the Oral Communications (O) course are fulfilled by the Music History courses in the major.

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.

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) (W)
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) (W)

Basic Musicianship Courses (22 credit hours)
MUSC 1230 - Structure and Style of Music I (2)
MUSC 1230L - Aural Skills and Sight-Singing I (1)
MUSC 1231 - Structure and Style of Music II (2)
MUSC 1231L - Aural Skills and Sight-Singing II (1)
MUSC 1233 - Class Piano I (1)
MUSC 1234 - Class Piano II (1)
MUSC 2230 - Structure and Style of Music III (2)
MUSC 2230L - Aural Skills and Sight-Singing III (1)
MUSC 2231 - Structure and Style of Music IV (2)
MUSC 2231L - Aural Skills and Sight-Singing IV (1)
MUSC 2233 - Class Piano III (1)
MUSC 2234 - Class Piano IV (1)
MUSC 3170 - Music History I (3) (W)
MUSC 3171 - Music History II (3) (O)

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 2151 - 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 2271 - Fundamental Recording Techniques (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
As needed to complete the credit hours required for graduation. 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

Grade 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 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
- *Minimum GPA:* n/a
- *Declaration of Major*. Students are first admitted as Pre-Music

majors. A formal audition is required for acceptance as a Music major (see the department website for audition dates). If the student is approved for acceptance after the audition, their major is changed to Music and they may proceed with major coursework.

- *Progression Requirements:* 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 any major courses at the 3000 or 4000 level.
- *Transferable Credit Hours:* Determined by UNC Charlotte Undergraduate Admissions.

Degree Requirements

The curriculum consists of 31 credit hours of General Education, 0-8 credit hours of Foreign Language, 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 credit hours)

For details on required courses, refer to the General Education program. Both Writing Intensive (W) courses and the Oral Communications (O) course are fulfilled by courses in the major.

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 (57-61 credit hours)

Basic Musicianship Courses (22 credit hours)

MUSC 1230 - Structure and Style of Music I (2)
MUSC 1230L - Aural Skills and Sight-Singing I (1)
MUSC 1231 - Structure and Style of Music II (2)
MUSC 1231L - Aural Skills and Sight-Singing II (1)
MUSC 1233 - Class Piano I (1)
MUSC 1234 - Class Piano II (1)
MUSC 2230 - Structure and Style of Music III (2)
MUSC 2230L - Aural Skills and Sight-Singing III (1)
MUSC 2231 - Structure and Style of Music IV (2)
MUSC 2231L - Aural Skills and Sight-Singing IV (1)
MUSC 2233 - Class Piano III (1)
MUSC 2234 - Class Piano IV (1)
MUSC 3170 - Music History I (3) (W)
MUSC 3171 - Music History II (3) (O)

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) (W)
MUSC 4800 - Senior Project Preparation (1 to 3) (W)

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

As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade 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 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 as well as a

Foreign Language proficiency 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

- *Minimum GPA:* n/a
- *Declaration of Major*. Students are first admitted as Pre-Music majors. A formal audition is required for acceptance as a Music major (see the department website for audition dates). If the student is approved for acceptance after the audition, their major is changed to Music and they may proceed with major coursework.
- *Progression Requirements:* 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 any major courses at the 3000 or 4000 level.
- *Transferable Credit Hours:* Determined by UNC Charlotte Undergraduate Admissions.

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 credit hours)

For details on required courses, refer to the General Education program. Both Writing Intensive (W) courses and the Oral Communications (O) course are fulfilled by the Music History courses in the major.

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 (54 credit hours)

Musicianship Courses (22 credit hours)

MUSC 1230 - Structure and Style of Music I (2)
MUSC 1230L - Aural Skills and Sight-Singing I (1)
MUSC 1231 - Structure and Style of Music II (2)
MUSC 1231L - Aural Skills and Sight-Singing II (1)
MUSC 1233 - Class Piano I (1)
MUSC 1234 - Class Piano II (1)
MUSC 2230 - Structure and Style of Music III (2)
MUSC 2230L - Aural Skills and Sight-Singing III (1)
MUSC 2231 - Structure and Style of Music IV (2)
MUSC 2231L - Aural Skills and Sight-Singing IV (1)
MUSC 2233 - Class Piano III (1)
MUSC 2234 - Class Piano IV (1)
MUSC 3170 - Music History I (3) (W)
MUSC 3171 - Music History II (3) (O)

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 2151 - Introduction to Music Technology (1)
MUSC 2235 - Jazz Improvisation I (2)
MUSC 2236 - Jazz Improvisation II (2)
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) (W)

Concentration Music Business or Technology Course (1-3 credit hours)

Select one of the following:

MUSC 1403 - Audio Engineering Practicum (1)
MUSC 2271 - Fundamental Recording Techniques (1)
MUSC 2410 - Music Internship (1 to 3)
Other approved course

Unrestricted Elective Courses

As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade 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 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

- *Minimum GPA:* n/a
- *Declaration of Major:* Students are first admitted as Pre-Music majors. A formal audition is required for acceptance as a Music major (see the department website for audition dates). 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:* 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 any major courses at the 3000 or 4000 level. In the same semester, students seeking K-12 Music Education licensure must earn a C or above in all MUED coursework, have a cumulative GPA of 2.75, achieve passing scores on Praxis Core (or prove exemption via test scores), and complete 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.
- *Transferable Credit Hours:* Determined by UNC Charlotte Undergraduate Admissions.

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 credit hours)

For details on required courses, refer to the General Education program. Both Writing Intensive (W) courses and the Oral Communications (O) course are fulfilled by courses in the major.

Music Studies Courses (61 credit hours)

Basic Musicianship Courses (22 credit hours)

MUSC 1230 - Structure and Style of Music I (2)
MUSC 1230L - Aural Skills and Sight-Singing I (1)
MUSC 1231 - Structure and Style of Music II (2)
MUSC 1231L - Aural Skills and Sight-Singing II (1)
MUSC 1233 - Class Piano I (1)
MUSC 1234 - Class Piano II (1)
MUSC 2230 - Structure and Style of Music III (2)
MUSC 2230L - Aural Skills and Sight-Singing III (1)
MUSC 2231 - Structure and Style of Music IV (2)
MUSC 2231L - Aural Skills and Sight-Singing IV (1)
MUSC 2233 - Class Piano III (1)
MUSC 2234 - Class Piano IV (1)
MUSC 3170 - Music History I (3) (W)
MUSC 3171 - Music History II (3) (O)

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 1121 - Chamber Singers (1) *(2 semesters)*
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)

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 2151 - Introduction to Music Technology (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 2141 - Music Development and Learning (2)
MUED 2200 - Foundations of Music Education (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 4270 - Teaching Discipline: Assessment and Behavior in the Music Classroom (2)
MUED 4467 - Student Teaching/Seminar: K-12 Music (12) (W)

Unrestricted Elective Courses

As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade Requirements

Most music courses require grades of C or above to progress to subsequent levels of study; all Music and Education coursework must be passed with grades of C or above to graduate. Students must earn a

grade of B or above in student teaching and pass Praxis II: Music Content and Instruction to be recommended for licensure. 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 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

- *Minimum GPA:* n/a
- *Declaration of Major:* Students are first admitted as Pre-Music majors. A formal audition is required for acceptance as a Music major (see the department website for audition dates). 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:* 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 any major courses at the 3000 or 4000 level. In the same semester, students seeking K-12 Music Education licensure must earn a C or above in all MUED coursework, have a cumulative GPA of 2.75, achieve passing scores on Praxis Core (or prove exemption via test scores), and complete 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.
- *Transferable Credit Hours:* Determined by UNC Charlotte Undergraduate Admissions.

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 credit hours)

For details on required courses, refer to the General Education program. Both Writing Intensive (W) courses and the Oral Communications (O) course are fulfilled by courses in the major.

Music Studies Courses (59 credit hours)

Basic Musicianship Courses (22 credit hours)

MUSC 1230 - Structure and Style of Music I (2)
MUSC 1230L - Aural Skills and Sight-Singing I (1)
MUSC 1231 - Structure and Style of Music II (2)
MUSC 1231L - Aural Skills and Sight-Singing II (1)
MUSC 1233 - Class Piano I (1)
MUSC 1234 - Class Piano II (1)
MUSC 2230 - Structure and Style of Music III (2)
MUSC 2230L - Aural Skills and Sight-Singing III (1)
MUSC 2231 - Structure and Style of Music IV (2)
MUSC 2231L - Aural Skills and Sight-Singing IV (1)
MUSC 2233 - Class Piano III (1)
MUSC 2234 - Class Piano IV (1)
MUSC 3170 - Music History I (3) (W)
MUSC 3171 - Music History II (3) (O)

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)

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 2151 - 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 2141 - Music Development and Learning (2)
MUED 2200 - Foundations of Music Education (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 4270 - Teaching Discipline: Assessment and Behavior in the Music Classroom (2)
MUED 4467 - Student Teaching/Seminar: K-12 Music (12) (W)
MUPF 1117 - Instrumental Lab Ensemble (0) *(4 semesters)*

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade 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 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
- *Minimum GPA:* n/a
- *Declaration of Major*: Students are first admitted as Pre-Music majors. A formal audition is required for acceptance as a Music major (see the department website for audition dates). If the student is approved for acceptance after the audition, their major is changed to Music and they may proceed with major coursework.
- *Progression Requirements:* 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 any major courses at the 3000 or 4000 level.
- *Transferable Credit Hours:* Determined by UNC Charlotte Undergraduate Admissions.

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 credit hours)
For details on required courses, refer to the General Education program. Both Writing Intensive (W) courses and the Oral Communications (O) course are fulfilled by Music History courses in the major.

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 (54 credit hours)
Musicianship Courses (22 credit hours)
MUSC 1230 - Structure and Style of Music I (2)
MUSC 1230L - Aural Skills and Sight-Singing I (1)
MUSC 1231 - Structure and Style of Music II (2)
MUSC 1231L - Aural Skills and Sight-Singing II (1)
MUSC 1233 - Class Piano I (1)
MUSC 1234 - Class Piano II (1)
MUSC 2230 - Structure and Style of Music III (2)
MUSC 2230L - Aural Skills and Sight-Singing III (1)
MUSC 2231 - Structure and Style of Music IV (2)
MUSC 2231L - Aural Skills and Sight-Singing IV (1)
MUSC 2233 - Class Piano III (1)
MUSC 2234 - Class Piano IV (1)
MUSC 3170 - Music History I (3) (W)
MUSC 3171 - Music History II (3) (O)

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 2151 - Introduction to Music Technology (1)
MUSC 2235 - Jazz Improvisation I (2)
or MUSC 4235 - Orchestration and Arranging (2)
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) (W)
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 2271 - Fundamental Recording Techniques (1)
MUSC 2410 - Music Internship (1 to 3)
Another approved course

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade 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

- *Minimum GPA:* n/a
- *Declaration of Major*: Students are first admitted as Pre-Music majors. A formal audition is required for acceptance as a Music major (see the department website for audition dates). If the student is approved for acceptance after the audition, their major is changed to Music and they may proceed with major coursework.
- *Progression Requirements:* 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 any major courses at the 3000 or 4000 level.
- *Transferable Credit Hours:* Determined by UNC Charlotte Undergraduate Admissions.

Degree Requirements

The curriculum consist 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 credit hours)

For details on required courses, refer to the General Education program. Both Writing Intensive (W) courses and the Oral Communications (O) course are fulfilled by Music History courses in the major.

Foreign Language Requirement (0-16 credit hours)

Students in this major are required to demonstrate proficiency through the 1202 level in TWO foreign languages of their choice, one of which must be French, German, Italian, or Spanish. Proficiency for each language 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 - Structure and Style of Music I (2)
MUSC 1230L - Aural Skills and Sight-Singing I (1)
MUSC 1231 - Structure and Style of Music II (2)
MUSC 1231L - Aural Skills and Sight-Singing II (1)
MUSC 1233 - Class Piano I (1)
MUSC 1234 - Class Piano II (1)
MUSC 2230 - Structure and Style of Music III (2)
MUSC 2230L - Aural Skills and Sight-Singing III (1)
MUSC 2231 - Structure and Style of Music IV (2)
MUSC 2231L - Aural Skills and Sight-Singing IV (1)
MUSC 2233 - Class Piano III (1)
MUSC 2234 - Class Piano IV (1)
MUSC 3170 - Music History I (3) (W)
MUSC 3171 - Music History II (3) (O)

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 2151 - Introduction to Music Technology (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 4037 - Vocal Literature (3)
MUSC 4230 - Form and Analysis (3) (W)

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade 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.

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 LBST 1103, 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
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 "Future Students" link at music.charlotte.edu for details).

Minor Requirements
General Studies and Musicianship Courses (6 credit hours)
LBST 1103 - The Arts and Society: Music (3)
MUSC 1100 - Rudiments of Music (2)
MUSC 1101 - Introduction to Aural Skills and Sight-Singing (1)

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 1133 - Flute Quartet (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 - Structure and Style of Music I (2)
MUSC 1230L - Aural Skills and Sight-Singing I (1)
MUSC 1231 - Structure and Style of Music II (2)
MUSC 1231L - Aural Skills and Sight-Singing II (1)
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 2151 - Introduction to Music Technology (1)
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)

Total = 18 Credit Hours

Grade 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
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) (W)

Certificate Total = 20 Credit Hours

Grade 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.

Undergraduate Certificate in Musical Theatre
The Undergraduate Certificate in Musical Theatre is designed to develop the unique skillset 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
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.

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 2227 - Contemporary Jazz Dance (2)

Certificate Total = 19 Credit Hours

Grade 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
  - 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 integrate the values of equity and inclusion to 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.

Bachelor of Arts in Theatre *with Concentration in Applied Theatre*

Admission Requirements

Freshmen

- ***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.

Transfers

- ***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.

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 45 credit hours of theatre courses. This is a structured curriculum. Students must take 26 credit hours of Core Courses before advancing to the prescribed 19 credit hours of the Concentration in Performance.

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 (31-35 credit hours)
For details on required courses, refer to the General Education program.

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 (14 credit hours)
THEA 1140 - The Theatre Experience (3)
THEA 1265 - Introduction to Stage Performance (3) (O)
THEA 1270 - Acting I (3) (O)
THEA 1300 - Play Analysis (3) (W)
THEA 2400 - Core-Level Production Practicum (1)
THEA 2600 - Majors Seminar (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)

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) (W)
THEA 3310 - Dramaturgy (3) (W)
THEA 4001 - Topics in Theatre (1 to 6) (W)
THEA 4330 - Performance Theory (3) (W)

Concentration Courses (19 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/Directing Methods with Youth K-12 (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) (O)
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) (W)
THEA 4330 - Performance Theory (3) (W)
THEA 4800 - Directed Independent Study (1 to 3)

Senior Year Courses (4 credit hours)
Both of the following courses must be taken in the Senior year:
THEA 3400 - Concentration Level Practicum (1)
THEA 4620 - Senior Seminar (3)

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade Requirements

All Theatre (THEA) courses must be passed with a grade of C or above, with no more than one grade of D in Theatre courses.

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

- ***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.

Transfers

- ***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.

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 45 credit hours of theatre courses. This is a structured curriculum. Students must take 26 credit hours of Core Courses before advancing to the prescribed 19 credit hours of the Concentration in Design/Tech.

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 (31-35 credit hours)

For details on required courses, refer to the General Education program.

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 (14 credit hours)

THEA 1140 - The Theatre Experience (3)
THEA 1265 - Introduction to Stage Performance (3) (O)
THEA 1270 - Acting I (3) (O)
THEA 1300 - Play Analysis (3) (W)
THEA 2400 - Core-Level Production Practicum (1)
THEA 2600 - Majors Seminar (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)

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) (W)
THEA 3310 - Dramaturgy (3) (W)
THEA 4001 - Topics in Theatre (1 to 6) (W)
THEA 4330 - Performance Theory (3) (W)

Concentration Courses (19 credit hours)

Elective Concentration Course I (3 credit hours)

Select one of the following:

THEA 3215 - Theatre Tech II - Costume (3)
THEA 3225 - Theatre Tech II - Scenic (3)
THEA 3235 - Theatre Tech II - Lighting (3)
THEA 3246 - Theatre Tech II - Sound (3)

Elective Concentration Course II (3 credit hours)

Select one of the following:

THEA 4210 - Costume Design II (3)
THEA 4230 - Scenic Design II (3)
THEA 4250 - Lighting Design II (3)

Elective Concentration Courses III (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 4001 - Topics in Theatre (1 to 6) (W)
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 Courses (7 credit hours)

The following courses must be taken in the Senior year:

THEA 1235 - Theatre Tech I - Lighting (3)
THEA 3400 - Concentration Level Practicum (1)
THEA 4620 - Senior Seminar (3)

Unrestricted Elective Courses

As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade Requirements
All Theatre (THEA) courses must be passed with a grade of C or above, with no more than one grade of D in Theatre courses.

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

- ***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.

Transfers

- ***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.

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 45 credit hours of theatre courses. This is a structured curriculum. Students must take 26 credit hours of Core Courses before advancing to the prescribed 19 credit hours of the Concentration in Directing, Dramaturgy, and Dramatic Writing.

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 (31-35 credit hours)
For details on required courses, refer to the General Education program.

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 (14 credit hours)
THEA 1140 - The Theatre Experience (3)
THEA 1265 - Introduction to Stage Performance (3) (0)
THEA 1270 - Acting I (3) (0)
THEA 1300 - Play Analysis (3) (W)
THEA 2400 - Core-Level Production Practicum (1)
THEA 2600 - Majors Seminar (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)

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) (W)
THEA 3310 - Dramaturgy (3) (W)
THEA 4001 - Topics in Theatre (1 to 6) (W)
THEA 4330 - Performance Theory (3) (W)

Concentration Courses (19 credit hours)
Required Concentration Courses (9 credit hours)
THEA 2320 - Playwriting I (3)
THEA 3310 - Dramaturgy (3) (W)
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) (W)
THEA 3315 - Shakespeare and Practical Dramaturgy (3)
THEA 4001 - Topics in Theatre (1 to 6) (W)
THEA 4300 - Directing II (3)
THEA 4310 - Theatrical Shakespeare (3)
THEA 4330 - Performance Theory (3) (W)
THEA 4340 - Theatre Collaboration (3) (SL)
THEA 4800 - Directed Independent Study (1 to 3)

Senior Year Courses (4 credit hours)
The following courses must be taken in the Senior year:
THEA 3400 - Concentration Level Practicum (1)
THEA 4620 - Senior Seminar (3)

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade Requirements
All Theatre (THEA) courses must be passed with a grade of C or above, with no more than one grade of D in Theatre courses.

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
- ***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.

Transfers
- ***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.

Degree Requirements
The Theatre major with a Concentration in Performance leading to the B.A. degree requires a total of 120 credit hours, including 45 credit hours of theatre courses. This is a structured curriculum. Students must take 26 credit hours of Core Courses before advancing to the prescribed 19 credit hours of the Concentration in Performance.

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 (31-35 credit hours)
For details on required courses, refer to the General Education program.

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 (14 credit hours)
THEA 1140 - The Theatre Experience (3)
THEA 1265 - Introduction to Stage Performance (3) (O)
THEA 1270 - Acting I (3) (O)
THEA 1300 - Play Analysis (3) (W)
THEA 2400 - Core-Level Production Practicum (1)
THEA 2600 - Majors Seminar (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)

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) (W)
THEA 3310 - Dramaturgy (3) (W)
THEA 4001 - Topics in Theatre (1 to 6) (W)
THEA 4330 - Performance Theory (3) (W)

Concentration Courses (19 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 Course I (3 credit hours)
Select one of the following:
THEA 2290 - Acting on Camera I (3)
THEA 3271 - Acting Movement Styles (3)
THEA 4310 - Theatrical Shakespeare (3)

Elective Concentration Course II (3 credit hours)
Select one of the following:
THEA 3207 - Acting for the Musical Theatre (3)
THEA 3293 - Introduction to African American Theatre (3)
THEA 4001 - Topics in Theatre (1 to 6) (W)
THEA 4281 - Commedia dell'Arte (3)
THEA 4282 - Summer Contemporary Circus Intensive (3)
THEA 4310 - Theatrical Shakespeare (3) *(if not already taken above)*
THEA 4340 - Theatre Collaboration (3) (SL)
THEA 4360 - Theatre for Young Audiences (3)
THEA 4400 - Internship in Theatre (3 to 6)

Senior Year Courses (4 credit hours)
The following courses must be taken in the Senior year:
THEA 3400 - Concentration Level Practicum (1)
THEA 4620 - Senior Seminar (3)

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade Requirements
All Theatre (THEA) courses must be passed with a grade of C or above, with no more than one grade of D in Theatre courses.

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
- ***Pre-Major Requirements:*** 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:*** 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, which requires a minimum GPA of 2.7, grades of C or above in both MDSK 2100 and THEA 1360, clear criminal background check, signed Professional Dispositions statement, and passing scores on Praxis Core (or proven exemption via test scores).

Transfers
- ***Pre-Major Requirements:*** The semester in which transfer students seeking K-12 Theatre Education Licensure are eligible to declare the Concentration in Theatre Education will be determined in consultation with their academic advisor.
- ***Declaration of Major:*** 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, which requires a minimum GPA of 2.7, grades of C or above in both MDSK 2100 and THEA 1360, clear criminal background check, signed Professional Dispositions statement, and passing scores on Praxis Core (or proven exemption via test scores).
- ***Transferable Credit Hours:*** Determined by UNC Charlotte Undergraduate Admissions.

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 26 credit hours of Core Courses before advancing to the prescribed 45 credit hours of the Concentration in Performance.

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 (31-35 credit hours)
For details on required courses, refer to the General Education program. Note that both Writing Intensive (W) courses and the Oral Communications (O) course are fulfilled by courses in the major.

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 (14 credit hours)
THEA 1140 - The Theatre Experience (3)
THEA 1265 - Introduction to Stage Performance (3) (O)
THEA 1270 - Acting I (3) (O)
THEA 1300 - Play Analysis (3) (W)
THEA 2400 - Core-Level Production Practicum (1)
THEA 2600 - Majors Seminar (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)

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) (W)
THEA 3310 - Dramaturgy (3) (W)
THEA 4001 - Topics in Theatre (1 to 6) (W)
THEA 4330 - Performance Theory (3) (W)

Concentration Courses (45 credit hours)

Concentration Theatre Courses (32 credit hours)

THEA 1360 - Applied Theatre in Communities and Schools (3)
THEA 2221 - Stage Management (3)
THEA 2370 - Introductory Theatre Teaching Apprenticeship (1)
THEA 3300 - Directing I (3)
THEA 3400 - Concentration Level Practicum (1)
THEA 4360 - Theatre for Young Audiences (3)
THEA 4370 - Theatre/Drama Curriculum and Methods K-12 (3) (W)
THEA 4375 - Devising/Directing Methods with Youth K-12 (3)
THEA 4467 - Student Teaching/Seminar: K-12 Fine and Performing Arts: Theatre (12) (0)

Concentration Education Courses (13 credit hours)

MDSK 2100 - Foundations of Education in Secondary Schools (3)
MDLG 3130 - The Early Adolescent Learner (4)
EDUC 4290 - Modifying Instruction for Learners with Diverse Needs (3)
SPED 2100 - Exceptionality in Schools and Society (3)

Unrestricted Elective Courses

As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade Requirements

Students must maintain a minimum cumulative GPA of 2.7 to remain in the program. All Theatre and Education coursework must be completed with grades of C or above, with no more than one grade of D in Theatre courses. A cumulative GPA of at least 2.75 is required to apply for student teaching senior year. Students must earn a grade of B or above in student teaching 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

Minor Requirements

A Minor in Theatre requires 18 credit hours.

Required Courses (6 credit hours)

THEA 1140 - The Theatre Experience (3)
THEA 1300 - Play Analysis (3) (W)

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

Grade Requirements

All courses in the minor must completed with grades of C or above (one grade of D allowed).

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.
- **Diversity and Inclusion:** 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 2.5, and a minimum GPA of 2.5 in the Progression Requirements, in order to be accepted into one of the major programs. These majors include:

- Accounting
- 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 Marketing Analytics
- 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 2.5 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:

- Economics

- International Management
- Management Information Systems
- Operations and Supply Chain Management

Undergraduate Certificates
- Entrepreneurship

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.

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) to majors only 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 2.5 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 application 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

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) (O,W)
ECON 2101 - Principles of Economics - Macro (3)
ECON 2102 - Principles of Economics - Micro (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.

Certification 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

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 participate 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

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 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 an additional 30 credit hours of academic study beyond the undergraduate accounting education. A student can meet this requirement by completing the Master of Accountancy program (MACC). For details on the MACC, please see the *UNC Charlotte Graduate Catalog.*

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 Requirements listed below may declare an upper-division major in Accounting.

- *Minimum GPA:* 2.5 overall and 2.5 in Progression Courses listed below
- *Pre-Major/Prerequisite/Progression Courses:*
  - ACCT 2121
  - ACCT 3323 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 all Progression Courses. 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. Otherwise, all grades earned in repeated courses are included in the GPA computation.]
- *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 2.5. Students who do not meet the Progression Requirements above are ineligible for continuation in the Belk College of Business.

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:* 2.5 overall and 2.5 in equivalent Progression Courses completed
- *Pre-Major/Prerequisite/Progression Courses:* See Progression Courses above

Degree Requirements

General Education Courses (37-41 credit hours)

For details on required courses, refer to the General Education program.

The following courses are required. **Students may attempt each of these courses two times.**

Business Core Courses (24 credit hours)

BLAW 3150 - Business Law I (3)
COMM 3160 - Business Communications (3) (O,W)
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 (22 credit hours)

ACCT 3300 - Professional Development for Accountants (1)

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)
ACCT 3325 - Intermediate Accounting III (3)
ACCT 3330 - Managerial Accounting and the Decision Process (3)
ACCT 3340 - Accounting Information Systems (3)
ACCT 3350 - Internal Auditing (3)
ACCT 4220 - Income Tax (3)

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade Requirements
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 3312 or ACCT 3324 with a grade of C or above and an overall GPA of at least 2.5 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
- 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

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
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree

Double-Counted Courses
Up to 3 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 3 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees).

More Information
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 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.

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

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 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.

- *Minimum GPA:* 2.5 overall and 2.5 in Progression Courses listed 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. 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. Otherwise, all grades earned in repeated courses are included in the GPA computation.]

- *Declaration of Major and/or Progression 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 2.5. Students who do not meet the Progression Requirements above are ineligible for continuation in the Belk College of Business.

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:

- *Minimum GPA:* 2.5 overall and 2.5 in equivalent Progression Courses completed
- *Pre-Major/Prerequisite/Progression Courses:* See Progression Courses above

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 (37-41 credit hours)

For details on required courses, refer to the General Education program.

Business Core Courses (27 credit hours)

BLAW 3150 - Business Law I (3)
COMM 3160 - Business Communications (3) (O,W)
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)

ECON 3112 - Econometrics (3)
INFO 3221 - Programming for Business Analytics (3)
INFO 3233 - Data and Information Management (3)
INFO 3236 - Business Analytics (3)
INFO 3237 - Business Analytics II (3)

Restricted Elective Courses (3 credit hours)

Select one of the following:
BUSA 3000 - Topics in Business Analytics (3)
BUSA 3400 - Business Analytics Internship (3)
ECON 4112 - Econometrics 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

As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade Requirements

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

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 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.

- *Minimum GPA:* 2.5 overall and 2.5 in Progression Courses listed 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. 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. Otherwise, all grades earned in repeated courses are included in the GPA computation.]
- *Declaration of Major and/or Progression 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 2.5. Students who do not meet the Progression Requirements above are ineligible for continuation in the Belk College of Business.

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:

- *Minimum GPA:* 2.5 overall and 2.5 in equivalent Progression Courses completed
- *Pre-Major/Prerequisite/Progression Courses:* See Progression Courses above

Degree Requirements

General Education Courses (37-41 credit hours)

For details on required courses, refer to the General Education program.

The following courses are required. **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) (O,W)
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 3231 - Business Applications Development (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 3221 - Programming for Business Analytics (3)
INFO 3229 - Business Data Communications and Information Security (3)
INFO 3230 - Enterprise Systems (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

As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade Requirements

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

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 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.

- *Minimum GPA:* 2.5 overall and 2.5 in Progression Courses listed 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. 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. Otherwise, all grades earned in repeated courses are included in the GPA computation.]
- *Declaration of Major and/or Progression 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 2.5. Students who do not meet the Progression Requirements above are ineligible for continuation in the Belk College of Business.

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:

- *Minimum GPA:* 2.5 overall and 2.5 in equivalent Progression Courses completed
- *Pre-Major/Prerequisite/Progression Courses:* See Progression Courses above

Degree Requirements

General Education Courses (37-41 credit hours)

For details on required courses, refer to the General Education program.

The following courses are required. **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) (O,W)
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 (9-12 credit hours)

OPER 3204 - Management of Service and Project Operations (3)
OPER 3208 - Supply Chain Management (3)

Plus at least one of the following:
OPER 3201 - Operations Planning and Control (3)
OPER 3206 - Quality Assurance and Management (3)

Restricted Elective Courses (3-6 credit hours)

If both OPER 3201 and OPER 3206 are selected above, then select one of the following; otherwise, 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 3400 - Operations and Supply Chain Management Internship (3)
OPER 3800 - Directed Study (3)
SEGR 3670 - Total Quality Systems (3)

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade Requirements
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
To be accepted into the Minor in MGIS and to progress into the upper-division of the College, a student must present a minimum 2.5 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 Economics Macro (3)
ECON 2102 - Principles of Economics Micro (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

Grade 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

To be accepted into the Minor in OSCM and to progress into the upper-division of the College, a student must present a minimum 2.5 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 Economics Macro (3)
ECON 2102 - Principles of Economics Micro (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

Grade 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 program. 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.

Bachelor of Science in Economics *with Concentration in Business*

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 Requirements listed below may declare an upper-division Major in Economics with Concentration in Business.

- *Minimum GPA:* 2.5 overall and 2.5 in Progression Courses listed 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. 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. Otherwise, all grades earned in repeated courses are included in the GPA computation.]
- *Declaration of Major and/or Progression 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 2.5. Students who do not meet the Progression Requirements above are ineligible for continuation in the Belk College of Business.

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:

- *Minimum GPA:* 2.5 overall and 2.5 in equivalent Progression Courses completed
- *Pre-Major/Prerequisite/Progression Courses:* See Progression Courses above

Degree Requirements

General Education Courses (37-41 credit hours)

For details on required courses, refer to the General Education program.

The following courses are required. **Students may attempt each of these courses two times.**

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) (O,W)

Plus one of the following Quantitative Skills Courses:
ECON 4100 - Mathematical Economics (3)
ECON 4112 - Econometrics II (3)
ECON 4117 - Business and Economic Forecasting (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
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade Requirements
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*

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 Requirements listed below may declare an upper-division Major in Economics with Concentration in Liberal Arts.

- *Minimum GPA:* 2.5 overall and 2.5 in Progression Courses listed below
- *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. 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. Otherwise, all grades earned in repeated courses are included in the GPA computation.]
- *Declaration of Major and/or Progression 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 2.5. Students who do not meet the Progression Requirements above are ineligible for continuation in the Belk College of Business.

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:

- *Minimum GPA:* 2.5 overall and 2.5 in equivalent Progression Courses completed
- *Pre-Major/Prerequisite/Progression Courses*: See Progression Courses above

Degree Requirements
General Education Courses (37-41 credit hours)
For details on required courses, refer to the General Education program.

The following courses are required. **Students may attempt each of the courses two times.**

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) (O,W)

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
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade Requirements
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
To be accepted into the Minor in Economics and to progress into the upper-division of the College, students must meet the following requirements:

- A minimum 2.5 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 Economics-Macro (3)
  - ECON 2102 - Principles of Economics-Micro (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 Economics Macro (3)
ECON 2102 - Principles of Economics Micro (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

Grade 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
- 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

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
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree

Double-Counted Courses
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).

More Information
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
- Minimum high school GPA of 3.75 (on a 4.0 scale)
- Minimum score of 1220 on SAT

Continued Enrollment 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.

Double-Counted Courses
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).

More Information
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 Mathematical Finance**

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.



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.

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 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.

- *Minimum GPA:* 2.5 overall and 2.5 in Progression Courses listed 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. 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. Otherwise, all grades earned in repeated courses are included in the GPA computation.]
- *Declaration of Major and/or Progression 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 2.5. Students who do not meet the Progression Requirements above are ineligible for continuation in the Belk College of Business.

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:

- *Minimum GPA:* 2.5 overall and 2.5 in equivalent Progression Courses completed
- *Pre-Major/Prerequisite/Progression Courses:* See Progression Courses above

Degree Requirements

General Education Courses (37-41 credit hours)

For details on required courses, refer to the General Education program.

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) (O,W)
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 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
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
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade Requirements

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*

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 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.

- *Minimum GPA:* 2.5 overall and 2.5 in Progression Courses listed 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. 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. Otherwise, all grades earned in repeated courses are included in the GPA computation.]
- *Declaration of Major and/or Progression 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 2.5. Students who do not meet the Progression Requirements above are ineligible for continuation in the Belk College of Business.

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:

- *Minimum GPA:* 2.5 overall and 2.5 in equivalent Progression Courses completed
- *Pre-Major/Prerequisite/Progression Courses:* See Progression Courses above

Degree Requirements

General Education Courses (37-41 credit hours)
For details on required courses, refer to the General Education program.

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) (O,W)
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)

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
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade Requirements

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.

Admission Requirements (Pre-Business)

Freshmen
Freshmen admission is competitive. Students who apply for this major and are accepted in to the Belk College of Business are initally 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 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.

- *Minimum GPA:* 2.5 overall and 2.5 in Progression Courses listed 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. 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. Otherwise, all grades earned in repeated courses are included in the GPA computation.]

- *Declaration of Major and/or Progression 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 2.5. Students who do not meet the Progression Requirements above are ineligible for continuation in the Belk College of Business.

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:

- *Minimum GPA:* 2.5 overall and 2.5 in equivalent Progression Courses completed
- *Pre-Major/Prerequisite/Progression Courses:* See Progression Courses above

Degree Requirements

General Education Courses (37-41 credit hours)
For details on required courses, refer to the General Education program.

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) (O,W)
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 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)
OPER 3204 - Management of Service and Project Operations (3)

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade Requirements

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*

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 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.

- *Minimum GPA:* 2.5 overall and 2.5 in Progression Courses listed 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. 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. Otherwise, all grades earned in repeated courses are included in the GPA computation.]

- *Declaration of Major and/or Progression 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 2.5. Students who do not meet the Progression Requirements above are ineligible for continuation in the Belk College of Business.

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:

- *Minimum GPA:* 2.5 overall and 2.5 in equivalent Progression Courses completed
- *Pre-Major/Prerequisite/Progression Courses:* See Progression Courses above

Degree Requirements

General Education Courses (37-41 credit hours)

For details on required courses, refer to the General Education program.

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) (O,W)
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)

ACCT 3323 - Intermediate Accounting I (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 4275 - Enterprise Risk Management (3)

Restricted Elective Courses (3 credit hours)

Select one of the following:
FINN 3222 - Investments (3)
FINN 3276 - Employee Benefits (3)
FINN 3277 - Legal Aspects of Insurance (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

As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade Requirements

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 Mathematical Finance

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 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

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
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree

Double-Counted Courses
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).

More Information
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
- Minimum high school GPA of 3.75 (on a 4.0 scale)
- Minimum score of 1220 on SAT

Continued Enrollment 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.

Double-Counted Courses
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).

More Information
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 the Minor in International Management.



Bachelor of Science in Business Administration: Management *with Concentration in Human Resource Management*

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 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.

- *Minimum GPA:* 2.5 overall and 2.5 in Progression Courses listed 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. 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. Otherwise, all grades earned in repeated courses are included in the GPA computation.]
- *Declaration of Major and/or Progression 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 2.5. Students who do not meet the Progression Requirements above are ineligible for continuation in the Belk College of Business.

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:

- *Minimum GPA:* 2.5 overall and 2.5 in equivalent Progression Courses completed
- *Pre-Major/Prerequisite/Progression Courses:* See Progression Courses above

Degree Requirements

General Education Courses (37-41 credit hours)
For details on required courses, refer to the General Education program.

Business Core Courses (27 credit hours)
BLAW 3150 - Business Law I (3)
COMM 3160 - Business Communications (3) (O,W)
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 3106 - 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
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade Requirements

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*

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 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.

- *Minimum GPA:* 2.5 overall and 2.5 in Progression Courses listed 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. 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. Otherwise, all grades earned in repeated courses are included in the GPA computation.]
- *Declaration of Major and/or Progression 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 2.5. Students who do not meet the Progression Requirements above are ineligible for continuation in the Belk College of Business.

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:

- *Minimum GPA:* 2.5 overall and 2.5 in equivalent Progression Courses completed

- *Pre-Major/Prerequisite/Progression Courses:* See Progression Courses above

Degree Requirements

General Education Courses (37-41 credit hours)
For details on required courses, refer to the General Education program.

Business Core Courses (27 credit hours)
BLAW 3150 - Business Law I (3)
COMM 3160 - Business Communications (3) (O,W)
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 3106 - 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
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade Requirements

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.

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 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.

- *Minimum GPA:* 2.5 overall and 2.5 in Progression Courses listed 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. 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. Otherwise, all grades earned in repeated courses are included in the GPA computation.]
- *Declaration of Major and/or Progression 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 2.5. Students who do not meet the Progression Requirements above are ineligible for continuation in the Belk College of Business.

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:

- *Minimum GPA:* 2.5 overall and 2.5 in equivalent Progression Courses completed
- *Pre-Major/Prerequisite/Progression Courses:* See Progression Courses above

Degree Requirements

General Education Courses (37-41 credit hours)
For details on required courses, refer to the General Education program.

The following courses are required. **Students may attempt each of these courses two times.** International Business majors are also required to study abroad.

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) (O,W)
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) (O)
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) (O)
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) (O)
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
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade Requirements
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.

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 2.5 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

Grade 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.

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
The Undergraduate Certificate in Entrepreneurship is open to all UNC Charlotte undergraduate students. However, the capacity of the program is restricted to 40 students entering the program per year. To be accepted into the Undergraduate Certificate in Entrepreneurship program, students must present a minimum 2.5 cumulative GPA and be on track to obtain Junior 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 (9 credit hours)
ENTR 3276 - Recognizing Entrepreneurial Opportunities (3)
ENTR 3278 - Experiential Entrepreneurship (3)
ENTR 3279 - Entrepreneurial Action and Organizing (3)

Elective Course (3 credit hours)
Select one of the following:
MGMT 3277 - Entrepreneurship (3)
MGMT 4300 - Entrepreneurial Decisions (3)

Certificate Total = 12 Credit Hours

Grade 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**
  - **Marketing Analytics**

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
- **Marketing Analytics Concentration** - designed for students with an interest in big data-related quantitative marketing to generate valuable marketing information

The Department of Marketing faculty also participate in various graduate programs (including the MBA, DSBA, and DBA programs) and executive education programs.



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.

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 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.

- *Minimum GPA:* 2.5 overall and 2.5 in Progression Courses listed 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. 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. Otherwise, all grades earned in repeated courses are included in the GPA computation.]
- *Declaration of Major and/or Progression 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 2.5. Students who do not meet the Progression Requirements above are ineligible for continuation in the Belk College of Business.

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:

- *Minimum GPA:* 2.5 overall and 2.5 in equivalent Progression Courses completed
- *Pre-Major/Prerequisite/Progression Courses:* See Progression Courses above

Degree Requirements

The following courses are required. Students may attempt each of these courses a maximum of two times.

General Education Courses (37-41 credit hours)
For details on required courses, refer to the General Education program.

Business Core Courses (27 credit hours)
BLAW 3150 - Business Law I
COMM 3160 - Business Communications (3) (O,W)
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)
Marketing Courses
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 3225 - Integrated Marketing Communications (3)
MKTG 3226 - Business-to-Business Marketing and Retailing (3)
MKTG 3231 - Global Marketing Management (3)

Additional Supporting Courses
Depending on which courses were taken in the previous option above, select up to two of the following, if needed:
MKTG 3000 - Topics in Marketing (3)
MKTG 3220 - Digital Marketing and Web Analytics (3)
MKTG 3228 - Marketing Analytics (3)
MKTG 3230 - Social Media/Mobile Marketing and Analytics (3)
MKTG 3400 - Marketing Internship (3)
MKTG 3800 - Directed Study (1 to 3)

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade Requirements

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 Marketing Analytics*

This concentration is designed for students with an interest in "quantitative" marketing.

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 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.

- *Minimum GPA:* 2.5 overall and 2.5 in Progression Courses listed 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. 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. Otherwise, all grades earned in repeated courses are included in the GPA computation.]
- *Declaration of Major and/or Progression 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 2.5. Students who do not meet the Progression Requirements above are ineligible for continuation in the Belk College of Business.

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:

- *Minimum GPA:* 2.5 overall and 2.5 in equivalent Progression Courses completed
- *Pre-Major/Prerequisite/Progression Courses:* See Progression Courses above

Degree Requirements

The following courses are required. Students may attempt each of these courses a maximum of two times.

General Education Courses (37-41 credit hours)

For details on required courses, refer to the General Education program.

Business Core Courses (27 credit hours)

BLAW 3150 - Business Law I (3)
COMM 3160 - Business Communications (3) (O,W)
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 Courses (9 credit hours)
MKTG 3222 - Marketing Research (3)
MKTG 3228 - Marketing Analytics (3)
MKTG 3250 - Marketing Strategy Consultancy (3)

Concentration Elective Courses (9 credit hours)
Analytics Courses
Select one or both of the following:
MKTG 3220 - Digital Marketing and Web Analytics (3)
MKTG 3230 - Social Media/Mobile Marketing and Analytics (3)

Other Marketing Courses
Select one of the following if both courses MKTG 3220 and MKTG 3230 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 3231 - Global Marketing Management (3)
MKTG 3400 - Marketing Internship (3)
MKTG 3800 - Directed Study (1 to 3)

Degree Total = 120 Credit Hours

Grade Requirements

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, with the mission of educating information technology specialists, conducting leading-edge research, and partnering with area businesses of great importance to the Charlotte community and the University. It was renamed the College of Computing and Informatics in 2006 in an effort to reflect the College's commitment to maintain relevancy with the ever-changing world of information technology that impacts all of our lives on a daily basis.

The College of Computing and Informatics consists of three departments:

- Department of Bioinformatics and Genomics
- Department of Computer Science
- Department of Software and Information Systems

Plus one interdisciplinary school:

- School of Data Science

The primary mission of CCI includes:

- Cultivating an inclusive culture dedicated to student success and equity in education
- Stimulating innovative high-risk high-impact research and development
- Maintaining a resilient and ethical society of educated, caring citizens

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 in the Departments of Computer Science, Software and Information Systems, and Bioinformatics and Genomics.

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.

Majors

Within the College of Computing and Informatics, the requirements of the Bachelor of Science (B.S.) and Bachelor of Arts (B.A.) in Computer Science are fulfilled by completing specific concentrations of courses offered by the three different departments in the College of Computing and Informatics and designed for students interested in pursuing a career in computing.

The B.S. offers a broad core of computing subjects and allows in-depth study in one of these concentrations:

- AI, Robotics, and Gaming (Department of Computer Science)
- Bioinformatics (Department of Bioinformatics and Genomics)
- Cybersecurity (Department of Software and Information Systems)
- Data Science (Department of Computer Science)
- Software Engineering (Department of Software and Information Systems)
- Software, Systems, and Networks (Department of Computer Science)
- Web and Mobile Applications (Department of Software and Information Systems)

The B.A. program is designed for students interested in pursuing a career in one of the following concentrations:

- Bioinformatics (Department of Bioinformatics and Genomics)
- Human-Computer Interaction (Department of Software and Information Systems)
- Information Technology (Department of Software and Information Systems)

Minors

- Artificial Intelligence
- Bioinformatics and Genomics
- Data Science
- Human-Centered Design
- Interactive Programming
- Software Development
- Software Systems

Undergraduate Certificates

- Game Design and Development

Honors Program

The Computing and Informatics Honors Program (CCI Honors) is a research-based experience designed to provide mentoring to high-achieving students to better prepare them for post-graduate success. CCI Honors students must complete a capstone research project under the supervision of a faculty member. Upon the successful completion of the honors program in CCI, students receive Honors commendations on their transcript and in the commencement program.

Admission Requirements

Consideration for admission to the honors program may be initiated by the student or by any faculty member in the College of Computing and Informatics (CCI). To qualify, students must have:

- An overall GPA of 3.2
- A GPA of 3.4 in CCI courses

Students should apply in the semester prior to the semester they plan to graduate. The CCI Honors Committee will formally approve admission.

Course Requirements

ITSC 4750 - Honors Thesis (3)

Certification Requirements

To graduate with Honors in Computing and Informatics, students must:

- Prepare a description of the proposed honors research for submission to the CCI Honors Committee, which has the authority to approve, recommend revisions to, or reject the proposal. Students who plan to graduate with "Honors in Computing and Informatics" must 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.
- Complete 3 credit hours of Honors Thesis (ITSC 4750) during the semester in which the student will complete their project.
- Prepare a written honors thesis based upon independent honors research.
- Make a public presentation of the research results and successfully defend their thesis before the student's honors committee.
- Receive a grade of A in ITSC 4750, have a GPA of at least 3.4 for courses in CCI, and an overall GPA of 3.2.

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 CCI Honors candidate shall graduate with Honors in Computing and Informatics.

Department of Bioinformatics and Genomics

bioinformatics.charlotte.edu

Undergraduate Programs

- B.A. in Computer Science
  - Bioinformatics
- B.S. in Computer Science
  - Bioinformatics
- Minor in Bioinformatics and Genomics
- Early Entry: M.S. in Bioinformatics
- Early Entry: Graduate Certificate in Bioinformatics Applications
- 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 graduate certificates. Undergraduate students can take a Minor in Bioinformatics or a Concentration in Bioinformatics within the B.A. or B.S. degrees in Computer Science. These degrees are designed to educate students in the collection, analysis, and interpretation of biological data, including the massive datasets being collected worldwide.

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 a second concentration in a non-computer science discipline, satisfied by a second major, a minor, or a set of coordinated courses developed through consultation with an advisor. Graduates of the B.A. program are thus expected to have knowledge and skill in computer science, plus a complementary discipline to which computing applies. The emphasis in this program is less theoretical/mathematical, and more on the applied side of computing.

Admission Requirements

Freshmen

- ***Minimum GPA:*** 2.5
- ***Other Requirements:*** 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

- ***Minimum GPA:*** 2.5
- ***Pre-Major/Prerequisite Courses:*** A grade of C or above is required in any previously attempted Computer Science course. Students must be able to transfer credits for the equivalent of College Algebra.
- ***Other Requirements:*** Transfer students must present an overall GPA of at least 2.5 with no grade less than C in Computer Science courses. For internal transfer students, participation in a Change of Major Workshop offered by the CCI Advising Center is required before becoming eligible to declare the Computer Science major.
- ***Transferable Credit Hours:*** 24

Degree Requirements

General Education Courses (37-41 credit hours)

For details on required courses, refer to the General Education program. 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 Mathematical and Logical Reasoning requirement)*
STAT 1222 - Introduction to Statistics (3) *(fulfills Mathematical and Logical Reasoning requirement)*
ENGL 2116 - Introduction to Technical Communication (3) (W) *(fulfills Communication Skills requirement)*
ITSC 3688 - Computers and Their Impact on Society (3) (O,W) *(fulfills Communication Skills requirement)*

Major Courses (36 credit hours)

Core Courses (16 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 (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 Studio (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 3211 - Bioinformatics Databases and Data Mining Technologies (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)
BINF 4101 - Computational Systems Biology (3)
BINF 4111 - Structural Bioinformatics (3)

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade 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 2 attempts per course in the major (plus 1 more by petition). 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. 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.

- 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 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 a computer science courses, as well as a second concentration in a non-computer science discipline, satisfied by a second major, a minor, or a set of coordinated courses developed through consultation with an advisor. Graduates from the B.S. program are thus expected to have knowledge and skill in computer science plus a complementary discipline to which computing applies.

Admission Requirements

Freshmen

- ***Minimum GPA:*** 2.5
- ***Other Requirements:*** 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.

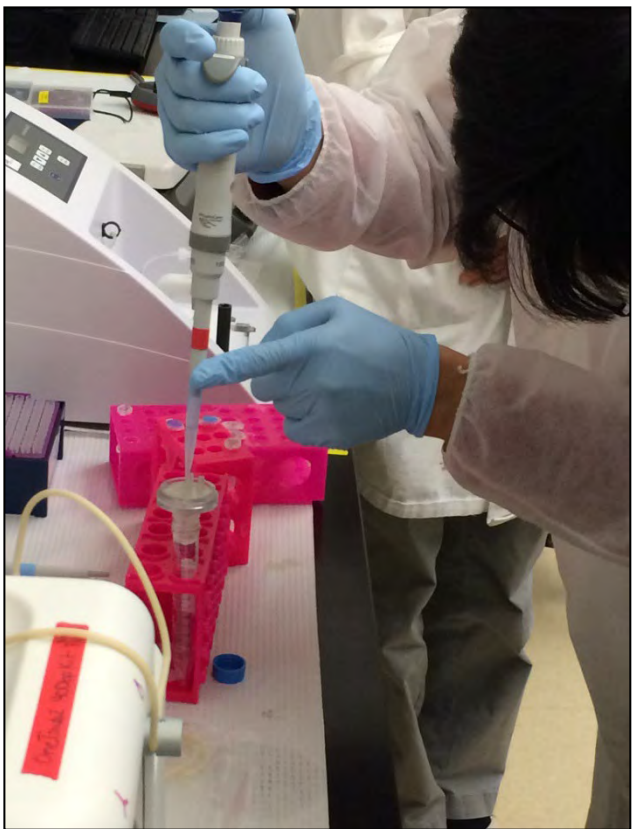
Transfers

- ***Minimum GPA:*** 2.5
- ***Pre-Major/Prerequisite Courses:*** A grade of C or above is required in any previously attempted Computer Science course. Students must be able to transfer credits for the equivalent of College Algebra.
- ***Other Requirements:*** Transfer students must present an overall GPA of at least 2.5 with no grade less than C in Computer Science courses. For internal transfer students, participation in a Change of Major Workshop offered by the CCI Advising Center is required before becoming eligible to declare the Computer Science major.
- ***Transferable Credit Hours:*** 24

Degree Requirements

General Education Courses (37-41 credit hours)
For details on required courses, refer to the General Education program. 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 Mathematical and Logical Reasoning requirement)*
MATH 1242 - Calculus II (3) *(fulfills Mathematical and Logical Reasoning requirement)*
ENGL 2116 - Introduction to Technical Communication (3) (W) *(fulfills Communication Skills requirement)*
ITSC 3688 - Computers and Their Impact on Society (3) (O,W) *(fulfills Communication Skills requirement)*



Major Courses (50 credit hours)

Core Courses (26 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 (3)
ITSC 3146 - Introduction to Operating Systems and Networking (3)
ITSC 3155 - Software Engineering (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 3211 - Bioinformatics Databases and Data Mining Technologies (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)
BINF 4101 - Computational Systems Biology (3)
BINF 4111 - Structural 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)
ITCS 4232 - Game Design and Development Studio (3)
ITIS 4390 - Interaction Design Studio (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

As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade 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 2 attempts per course in the major (plus 1 more by petition). 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. 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.

- 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.

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 Credit Hours

Early Entry: Master of Science in Bioinformatics, Graduate Certificate in Bioinformatics Applications, or Graduate Certificate in Bioinformatics Technology

Exceptional undergraduate students at UNC Charlotte may be accepted into the M.S. in Bioinformatics, Graduate Certificate in Bioinformatics Applications, or Graduate Certificate in Bioinformatics Technology, and 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 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

Double-Counted Courses

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).

More Information

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

cs.charlotte.edu

Undergraduate Programs

- B.S. in Computer Science
  - AI, Robotics, and Gaming
  - Data Science
  - Software, Systems, and Networks
- Minor in Artificial Intelligence
- Minor in Data Science
- Minor in Software Systems
- Undergraduate Certificate in Game Design and Development
- Early Entry: M.S. in Computer Science

Computer Science is the cornerstone of modern society. It revolutionizes how we learn, communicate, entertain, conduct business, perform research, and practice medicine. It provides computer scientists with nearly limitless opportunities to make satisfying and enriching contributions to society. While other disciplines produce graduates prepared for specific jobs, computer science offers a comprehensive foundation that permits graduates to explore and adapt to new technologies, ideas, and professions. The work of computer scientists falls into many categories. For example, computer scientists:

- **Design, implement, and operate software.** Computer scientists tackle challenging software design, implementation, and testing problems. They also lead and contribute to software projects and operate software systems.
- **Discover, innovate, and create.** Computer scientists produce innovative solutions to society's most difficult and critical challenges. They promote discovery. They are innovators who inspire creativity and overcome challenges big and small.
- **Integrate information and technology into society.** Computer scientists design new ways to integrate information and technology into all aspects of society including business workflows, the arts, research, engineering, healthcare, and education.
- **Manage and explore data**. Computer scientists develop and apply tools and methods to curate, explore, and synthesize data to uncover insights and inform decision-making.

The Department of Computer Science offers degrees at the baccalaureate, master's, and doctoral levels, as well as various certificates. The department offers B.S. and M.S. degrees in Computer Science with concentrations in: Data Science; Artificial Intelligence, Robotics, and Gaming; and, Software, Systems, and Networks. The M.S. in Computer Science offers an additional concentration in Information Security and Privacy. The department also offers a Ph.D. in Computing and Information Systems. See the *UNC Charlotte Graduate Catalog* for information on the M.S. and Ph.D. degrees.) Students are prepared by internationally recognized faculty through a comprehensive program of coursework, research, and internship opportunities in state-of-the-art computing facilities.



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 a computer science courses, as well as a second concentration in a non-computer science discipline, satisfied by a second major, a minor, or a set of coordinated courses developed through consultation with an advisor. Graduates from the B.S. program are thus expected to have knowledge and skill in computer science plus a complementary discipline to which computing applies.

Admission Requirements

Freshmen

- ***Minimum GPA:*** 2.5
- ***Other Requirements:*** 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

- ***Minimum GPA:*** 2.5
- ***Pre-Major/Prerequisite Courses:*** A grade of C or above is required in any previously attempted Computer Science course. Students must be able to transfer credits for the equivalent of College Algebra.
- ***Other Requirements:*** Transfer students must present an overall GPA of at least 2.5 with no grade less than C in Computer Science courses. For internal transfer students, participation in a Change of Major Workshop offered by the CCI Advising Center is required before becoming eligible to declare the Computer Science major.
- ***Transferable Credit Hours:*** 24

Degree Requirements

General Education Courses (37-41 credit hours)

For details on required courses, refer to the General Education program. 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 Mathematical and Logical Reasoning*

requirement)
MATH 1242 - Calculus II (3) *(fulfills Mathematical and Logical Reasoning requirement)*
ENGL 2116 - Introduction to Technical Communication (3) (W) *(fulfills Communication Skills requirement)*
ITSC 3688 - Computers and Their Impact on Society (3) (O,W) *(fulfills Communication Skills requirement)*

Major Courses (50 credit hours)
Core Courses (26 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 (3)
ITSC 3146 - Introduction to Operating Systems and Networking (3)
ITSC 3155 - Software Engineering (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 Studio (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)
ITCS 4238 - Intelligent and Interactive System 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)
ITCS 3153 - Introduction to Artificial Intelligence (3)

Concentration Elective Courses (12 credit hours)
Select four of the following:
ITCS 3120 - Introduction to Interactive Computer Graphics (3)
ITCS 4111 - Introduction to Natural Language Processing (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 - Computer Vision (3)
ITCS 4156 - Introduction to Machine Learning (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
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade 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 2 attempts per course in the major (plus 1 more by petition). 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. 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.

- 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 a computer science courses, as well as a second concentration in a non-computer science discipline, satisfied by a second major, a minor, or a set of coordinated courses developed through consultation with an advisor. Graduates from the B.S. program are thus expected to have knowledge and skill in computer science plus a complementary discipline to which computing applies.

Admission Requirements
Freshmen
- ***Minimum GPA:*** 2.5
- ***Other Requirements:*** 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

- ***Minimum GPA:*** 2.5
- ***Pre-Major/Prerequisite Courses:*** A grade of C or above is required in any previously attempted Computer Science course. Students must be able to transfer credits for the equivalent of College Algebra.
- ***Other Requirements:*** Transfer students must present an overall GPA of at least 2.5 with no grade less than C in Computer Science courses. For internal transfer students, participation in a Change of Major Workshop offered by the CCI Advising Center is required before becoming eligible to declare the Computer Science major.
- ***Transferable Credit Hours:*** 24

Degree Requirements

General Education Courses (37-41 credit hours)

For details on required courses, refer to the General Education program. 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 Mathematical and Logical Reasoning requirement)*
MATH 1242 - Calculus II (3) *(fulfills Mathematical and Logical Reasoning requirement)*
ENGL 2116 - Introduction to Technical Communication (3) (W) *(fulfills Communication Skills requirement)*
ITSC 3688 - Computers and Their Impact on Society (3) (O,W) *(fulfills Communication Skills requirement)*

Major Courses (50 credit hours)

Core Courses (26 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 (3)
ITSC 3146 - Introduction to Operating Systems and Networking (3)
ITSC 3155 - Software Engineering (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 Studio (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 3160 - Database Design and Implementation (3)
ITCS 3162 - Introduction to Data Mining (3)

Concentration Elective Courses (12 credit hours)

Select three courses from the lists below, with at least one from each of the two groups:

Group A

ITCS 3190 - Cloud Computing for Data Analysis (3)
ITCS 3216 - Introduction to Cognitive Science (3)
ITCS 4156 - Introduction to Machine Learning (3)

Group B

INFO 3236 - Business Analytics (3)
ITCS 3134 - Digital Image Processing (3)
ITCS 4121 - Information Visualization (3)
ITCS 4122 - Visual Analytics (3)
ITIS 4510 - 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

As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade 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 2 attempts per course in the major (plus 1 more by petition). 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. 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.
- 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 Software, Systems, and Networks*

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 a computer science courses, as well as a second concentration in a non-computer science discipline, satisfied by a second major, a minor, or a set of coordinated courses developed through consultation with an advisor. Graduates from the B.S. program are thus expected to have knowledge and skill in computer science plus a complementary discipline to which computing applies.

Admission Requirements

Freshmen

- ***Minimum GPA:*** 2.5
- ***Other Requirements:*** 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

- ***Minimum GPA:*** 2.5
- ***Pre-Major/Prerequisite Courses:*** A grade of C or above is required in any previously attempted Computer Science course. Students must be able to transfer credits for the equivalent of College Algebra.
- ***Other Requirements:*** Transfer students must present an overall GPA of at least 2.5 with no grade less than C in Computer Science courses. For internal transfer students, participation in a Change of Major Workshop offered by the CCI Advising Center is required before becoming eligible to declare the Computer Science major.
- ***Transferable Credit Hours:*** 24

Degree Requirements

General Education Courses (37-41 credit hours)

For details on required courses, refer to the General Education program. 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 Mathematical and Logical Reasoning requirement)*
MATH 1242 - Calculus II (3) *(fulfills Mathematical and Logical Reasoning requirement)*
ENGL 2116 - Introduction to Technical Communication (3) (W) *(fulfills Communication Skills requirement)*
ITSC 3688 - Computers and Their Impact on Society (3) (O,W) *(fulfills Communication Skills requirement)*

Major Courses (50 credit hours)

Core Courses (26 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 (3)
ITSC 3146 - Introduction to Operating Systems and Networking (3)
ITSC 3155 - Software Engineering (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 Studio (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)

Required Concentration Courses (6 credit hours)

ITCS 3145 - Parallel and Distributed Computing (3)
ITCS 3166 - Introduction to Computer Networks (3)

Concentration Elective Courses (9 credit hours)

Select three of the following: (The categories are only to indicate sub-areas of this concentration and the courses selected do not need to be within one category.)

Systems
ITCS 3143 - Operating Systems (3)
ITCS 3160 - Database Design and Implementation (3)
ITCS 4141 - Computer Organization and Architecture (3)
ITCS 4182 - Introduction to High-Performance Computing (3)
ITIS 4221 - Secure Programming and Penetration Testing (3)

Software: Programming Languages Foundations and Practice
ITCS 3110 - Compiler Construction (3)
ITCS 3112 - Design and Implementation of Object-Oriented Systems (3)
ITCS 4102 - Programming Languages (3)
ITIS 3320 - Introduction to Software Testing and Assurance (3)

Pervasive, Mobile, and Embedded Computing
ITCS 4131 - Communication Network Design (3)
ITCS 4180 - Mobile Application Development (3)
ITIS 3200 - Introduction to Information Security and Privacy (3)
ITIS 4166 - Network-Based Application 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
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade 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 2 attempts per course in the major (plus 1 more by petition). 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. 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.
- Students are required to achieve a grade of C or above in all Core Courses within the major, as listed above.

Minor in Artificial Intelligence
The Minor in Artificial Intelligence 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
Students must have a background in mathematics and have completed one of the following courses:

MATH 1100 - College Algebra (3)
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 (11 credit hours)
ITSC 1212 - Introduction to Computer Science I (4)
ITSC 1213 - Introduction to Computer Science II (4)
ITSC 2214 - Data Structures and Algorithms (3)

Concentration Course (3 credit hours)
ITCS 3153 - Introduction to Artificial Intelligence (3)

Elective Course (3 credit hours)
Select one of the following:
ITCS 3120 - Introduction to Interactive Computer Graphics (3)
ITCS 3134 - Digital Image Processing (3)
ITCS 4123 - Visualization and Visual Communication (3)
ITCS 4151 - Intelligent Robotics (3)

Minor Total = 17 Credit Hours

Grade 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
Students must have a background in mathematics and have completed one of the following courses:

MATH 1100 - College Algebra (3)
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 (11 credit hours)
ITSC 1212 - Introduction to Computer Science I (4)
ITSC 1213 - Introduction to Computer Science II (4)
ITSC 2214 - Data Structures and Algorithms (3)

Elective Concentration Courses (6 credit hours)
Select two of the following:
ITCS 3160 - Database Design and Implementation (3)
ITCS 3162 - Introduction to Data Mining (3)
ITCS 3190 - Cloud Computing for Data Analysis (3)

Minor Total = 17 Credit Hours

Grade Requirements
Students must receive a grade of C or above in all courses toward the minor.

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
Students must have a background in mathematics and have completed one of the following courses:

MATH 1100 - College Algebra (3)
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 (11 credit hours)
ITSC 1212 - Introduction to Computer Science I (4)
ITSC 1213 - Introduction to Computer Science II (4)
ITSC 2214 - Data Structures and Algorithms (3)

Elective Concentration Courses (6 credit hours)
Select two of the following:
ITCS 3145 - Parallel and Distributed Computing (3)
ITCS 3160 - Database Design and Implementation (3)
ITCS 3166 - Introduction to Computer Networks (3)
ITSC 3155 - Software Engineering (3)

Minor Total = 17 Credit Hours

Grade 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
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. These University-level requirements include:

1) An undergraduate degree or admission to an undergraduate degree program at UNC Charlotte.
2) 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.
3) Official transcripts for previous degree(s) and course work
4) A Declaration of Program form (Change of Major/Minor form) listing the certificate program.

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)

Computation
ITCS 4237 - Audio Processing for Entertainment Computing (3)
A computation-related course approved by the GDD Certificate Coordinator (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

Grade 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

- 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

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 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

Double-Counted Courses

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
Capstone Course	
ITSC 4155	ITCS 6112
AI, Robotics, and Gaming Concentration Electives	
ITCS 4123	ITCS 5123
ITCS 4152	ITCS 5152
ITCS 4156	ITCS 6156
ITCS 4230	ITCS 5230
ITCS 4231	ITCS 5231
ITCS 4235	ITCS 5235
ITCS 4236	ITCS 5236
Software, Systems, and Networking Concentration Electives	
ITCS 4102	ITCS 5102
ITCS 4131	ITCS 6166
ITCS 4141	ITCS 5141
ITCS 4180	ITCS 5180
ITIS 4166	ITIS 5166
Data Science Concentration Electives	
ITCS 4121	ITCS 5121
ITCS 4122	ITCS 5122
ITCS 4156	ITCS 6156
ITIS 4510	ITIS 5510

More Information

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 Software and Information Systems

sis.charlotte.edu

Undergraduate Programs

- B.A. in Computer Science
  - Human-Computer Interaction
  - Information Technology
- B.S. in Computer Science
  - Cybersecurity
  - Software Engineering
  - Web and Mobile Applications
- Minor in Human-Centered Design
- Minor in Interactive Programming
- Minor in Software Development
- Early Entry: M.S. in Cybersecurity
- Early Entry: M.S. in Information Technology

The Department of Software and Information Systems provides a range of courses and concentrations related to the design, management, and security of software systems with an emphasis on information technology. The department offers courses in information technology design and management; software systems design, architecture, integration, and implementation; human centered design and interaction, cybersecurity, health informatics, and intelligent and complex systems.

The Department of Software and Information Systems offers both undergraduate and graduate programs. The undergraduate majors lead to a Bachelor of Arts (B.A.) or a Bachelor of Science (B.S.) in Computer Science. The Software and Information Systems concentrations included in these degrees described below are technically part of the Computer Science major but for administrative and advising purposes, students completing these concentrations are members of the Department of Software and Information Systems.



Graduate study leads to a Master of Science (M.S.) in Information Technology or Cybersecurity. Graduate certificate programs are also available. See the *UNC Charlotte Graduate Catalog* for information on these graduate programs.

To assist with their studies, students have access to advanced computer labs and software where they can practice and experiment in controlled environments. In addition, the department maintains a high degree of interaction with working industry professionals who provide real-world expertise and experience.

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 a computer science courses, as well as a second concentration in a non-computer science discipline, satisfied by a second major, a minor, or a set of coordinated courses developed through consultation with an advisor. Graduates from the B.S. program are thus expected to have knowledge and skill in computer science plus a complementary discipline to which computing applies.

Admission Requirements

Freshmen

- ***Minimum GPA:*** 2.5
- ***Other Requirements:*** 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

- ***Minimum GPA:*** 2.5
- ***Pre-Major/Prerequisite Courses:*** A grade of C or above is required in any previously attempted Computer Science course. Students must be able to transfer credits for the equivalent of College Algebra.
- ***Other Requirements:*** Transfer students must present an overall GPA of at least 2.5 with no grade less than C in Computer Science courses. For internal transfer students, participation in a Change of Major Workshop offered by the CCI Advising Center is required before becoming eligible to declare the Computer Science major.
- ***Transferable Credit Hours:*** 24

Degree Requirements

General Education Courses (37-41 credit hours)

For details on required courses, refer to the General Education program. 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 Mathematical and Logical Reasoning requirement)*
MATH 1242 - Calculus II (3) *(fulfills Mathematical and Logical Reasoning requirement)*
ENGL 2116 - Introduction to Technical Communication (3) (W) *(fulfills Communication Skills requirement)*
ITSC 3688 - Computers and Their Impact on Society (3) (O,W) *(fulfills Communication Skills requirement)*

Major Courses (50 credit hours)

Core Courses (26 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 (3)
ITSC 3146 - Introduction to Operating Systems and Networking (3)
ITSC 3155 - Software Engineering (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 Studio (3)
ITIS 4246 - Competitive Cyber Defense (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 Required Courses (24 credit hours)

ITCS 3160 - Database Design and Implementation (3)
ITIS 3135 - Web-Based Application Design and Development (3)
ITIS 3200 - Introduction to Information Security and Privacy (3)
ITIS 3246 - IT Infrastructure and Security (3)
ITIS 4166 - Network-Based Application Development (3)
ITIS 4221 - Secure Programming and Penetration Testing (3)
ITIS 4250 - Computer Forensics (3)
ITIS 4260 - Introduction to Security Analytics (3)
or ITIS 4420 - Usable Security and Privacy (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

As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade 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 2 attempts per course in the major (plus 1 more by petition). 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. 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.

- 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 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 a computer science courses, as well as a second concentration in a non-computer science discipline, satisfied by a second major, a minor, or a set of coordinated courses developed through consultation with an advisor. Graduates from the B.S. program are thus expected to have knowledge and skill in computer science plus a complementary discipline to which computing applies.

Admission Requirements

Freshmen

- ***Minimum GPA:*** 2.5
- ***Other Requirements:*** 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

- ***Minimum GPA:*** 2.5
- ***Pre-Major/Prerequisite Courses:*** A grade of C or above is required in any previously attempted Computer Science course. Students must be able to transfer credits for the equivalent of College Algebra.
- ***Other Requirements:*** Transfer students must present an overall GPA of at least 2.5 with no grade less than C in Computer Science courses. For internal transfer students, participation in a Change of Major Workshop offered by the CCI Advising Center is required before becoming eligible to declare the Computer Science major.
- ***Transferable Credit Hours:*** 24

Degree Requirements

General Education Courses (37-41 credit hours)

For details on required courses, refer to the General Education program. 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 Mathematical and Logical Reasoning requirement)*
MATH 1242 - Calculus II (3) *(fulfills Mathematical and Logical Reasoning requirement)*
ENGL 2116 - Introduction to Technical Communication (3) (W) *(fulfills Communication Skills requirement)*
ITSC 3688 - Computers and Their Impact on Society (3) (O,W) *(fulfills Communication Skills requirement)*

Major Courses (50 credit hours)

Core Courses (26 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 (3)
ITSC 3146 - Introduction to Operating Systems and Networking (3)
ITSC 3155 - Software Engineering (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 Studio (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)

ITCS 3160 - Database Design and Implementation (3)
ITIS 3135 - Web-Based Application Design and Development (3)
ITIS 3310 - Software Architecture and Design (3)
ITIS 4221 - Secure Programming and Penetration Testing (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 - Human-Centered Design (3)
ITIS 4350 - Rapid Prototyping (3)
ITIS 4440 - Interactive Systems Design and Implementation (3)

Software Development Courses

ITIS 3300 - Software Requirements and Project Management (3)
ITIS 3320 - Introduction to Software Testing and Assurance (3)
ITIS 4166 - Network-Based 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

As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade 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 2 attempts per course in the major (plus 1 more by petition). 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. 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.

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 and Mobile Applications*

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 a computer science courses, as well as a second concentration in a non-computer science discipline, satisfied by a second major, a minor, or a

set of coordinated courses developed through consultation with an advisor. Graduates from the B.S. program are thus expected to have knowledge and skill in computer science plus a complementary discipline to which computing applies.

Admission Requirements

Freshmen

- ***Minimum GPA:*** 2.5
- ***Other Requirements:*** 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

- ***Minimum GPA:*** 2.5
- ***Pre-Major/Prerequisite Courses:*** A grade of C or above is required in any previously attempted Computer Science course. Students must be able to transfer credits for the equivalent of College Algebra.
- ***Other Requirements:*** Transfer students must present an overall GPA of at least 2.5 with no grade less than C in Computer Science courses. For internal transfer students, participation in a Change of Major Workshop offered by the CCI Advising Center is required before becoming eligible to declare the Computer Science major.
- ***Transferable Credit Hours:*** 24

Degree Requirements

General Education Courses (37-41 credit hours)

For details on required courses, refer to the General Education program. 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 Mathematical and Logical Reasoning requirement)*
MATH 1242 - Calculus II (3) *(fulfills Mathematical and Logical Reasoning requirement)*
ENGL 2116 - Introduction to Technical Communication (3) (W) *(fulfills Communication Skills requirement)*
ITSC 3688 - Computers and Their Impact on Society (3) (O,W) *(fulfills Communication Skills requirement)*

Major Courses (50 credit hours)

Core Courses (26 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 (3)
ITSC 3146 - Introduction to Operating Systems and Networking (3)
ITSC 3155 - Software Engineering (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 Studio (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)

ITIS 3130 - Human-Centered Design (3)
ITIS 3135 - Web-Based Application Design and Development (3)
ITIS 3200 - Introduction to Information Security and Privacy (3)
ITIS 3300 - Software Requirements and Project Management (3)
ITIS 3310 - Software Architecture and Design (3)
ITIS 3320 - Introduction to Software Testing and Assurance (3)
ITIS 4166 - Network-Based Application Development (3)
ITIS 4440 - Interactive Systems Design and Implementation (3)
ITIS 4221 - Secure Programming and Penetration Testing (3)
ITCS 3160 - Database Design and Implementation (3)

Concentration Technical Elective Courses (3 credit hours)

Select elective courses from the 3000- or 4000- levels of courses offered by the College of Computing and Informatics.

Unrestricted Elective Courses

As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade 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 2 attempts per course in the major (plus 1 more by petition). 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. 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.

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 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, as well as a second concentration in a non-computer science discipline, satisfied by a second major, a minor, or a set of coordinated courses developed through consultation with an advisor. Graduates from the B.A. program are thus expected to have knowledge and skill in computer science plus a complementary discipline to which computing applies. The emphasis in this program is less theoretical/mathematical, and more on the applied side of computing.

Admission Requirements

Freshmen

- ***Minimum GPA:*** 2.5
- ***Other Requirements:*** 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

- ***Minimum GPA:*** 2.5
- ***Pre-Major/Prerequisite Courses:*** A grade of C or above is required in any previously attempted Computer Science course. Students must be able to transfer credits for the equivalent of College Algebra.
- ***Other Requirements:*** Transfer students must present an overall GPA of at least 2.5 with no grade less than C in Computer Science courses. For internal transfer students, participation in a Change of Major Workshop offered by the CCI Advising Center is required before becoming eligible to declare the Computer Science major.
- ***Transferable Credit Hours:*** 24

Degree Requirements

General Education Courses (37-41 credit hours)

For details on required courses, refer to the General Education program. 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 Mathematical and Logical Reasoning requirement)*
STAT 1222 - Introduction to Statistics (3) *(fulfills Mathematical and Logical Reasoning requirement)*
ENGL 2116 - Introduction to Technical Communication (3) (W) *(fulfills Communication Skills requirement)*
ITSC 3688 - Computers and Their Impact on Society (3) (O,W) *(fulfills Communication Skills requirement)*

Major Courses (37 credit hours)

Core Courses (16 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 (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 Studio (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 (30 credit hours)

Concentration Core Courses (18 credit hours)
ITIS 3130 - Human-Centered Design (3)
ITIS 3135 - Web-Based Application Design and Development (3)
ITIS 3200 - Introduction to Information Security and Privacy (3)
ITIS 3216 - Introduction to Cognitive Science (3)
ITIS 4350 - Rapid Prototyping (3)
ITIS 4440 - Interactive Systems Design and Implementation (3)

Concentration Technical Elective Courses (12 credit hours)
Select four elective courses from 3000- or 4000-level courses offered by the College of Computing and Informatics, excluding the courses listed above.

Unrestricted Elective Courses (9 credit hours)

Select elective courses in consultation with advisor.

Degree Total = 120 Credit Hours

Grade 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 2 attempts per course in the major (plus 1 more by petition). 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. 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.

- 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 communications 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, as well as a second concentration in a non-computer science discipline, satisfied by a second major, a minor, or a set of coordinated courses developed through consultation with an advisor. Graduates from the B.A. program are thus expected to have knowledge and skill in computer science plus a complementary discipline to which computing applies. The emphasis in this program is less theoretical/mathematical, and more on the applied side of computing.

Admission Requirements

Freshmen

- ***Minimum GPA:*** 2.5
- ***Other Requirements:*** 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

- ***Minimum GPA:*** 2.5
- ***Pre-Major/Prerequisite Courses:*** A grade of C or above is required in any previously attempted Computer Science course. Students must be able to transfer credits for the equivalent of College Algebra.
- ***Other Requirements:*** Transfer students must present an overall GPA of at least 2.5 with no grade less than C in Computer Science courses. For internal transfer students, participation in a Change of Major Workshop offered by the CCI Advising Center is required before becoming eligible to declare the Computer Science major.
- ***Transferable Credit Hours:*** 24

Degree Requirements

General Education Courses (37-41 credit hours)

For details on required courses, refer to the General Education program. 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 Mathematical and Logical Reasoning requirement)*
STAT 1222 - Introduction to Statistics (3) *(fulfills Mathematical and Logical Reasoning requirement)*
ENGL 2116 - Introduction to Technical Communication (3) (W) *(fulfills Communication Skills requirement)*
ITSC 3688 - Computers and Their Impact on Society (3) (O,W) *(fulfills Communication Skills requirement)*

Major Courses (37 credit hours)

Core Courses (16 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 (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 Studio (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 - Human-Centered Design (3)
ITIS 3135 - Web-Based Application Design and Development (3)
ITIS 3200 - Introduction to Information Security and Privacy (3)
ITIS 3300 - Software Requirements and Project Management (3)
ITCS 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 (6 credit hours)

Select courses in consultation with advisor.

Degree Total = 120 Credit Hours

Grade 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 2 attempts per course in the major (plus 1 more by petition). 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. 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.
- 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

- Approval of Department of Software and Information Systems

Minor Requirements

Required Courses (13 credit hours)
ITSC 1110 - Introduction to Computer Science Principles (3)
ITSC 1212 - Introduction to Computer Science I (4)
ITIS 3130 - Human-Centered Design (3)
ITIS 4350 - Rapid Prototyping (3)

Elective Courses (3 credit hours)
Select one of the following:
ITCS 3216 - Introduction to Cognitive Science (3)
ITCS 4122 - Visual Analytics (3)
ITIS 4390 - Interaction Design Studio (3)

Grade Requirements

All courses must be completed with a grade of C or above.

Minor Total = 16 Credit Hours

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

- Approval of Department of Software and Information Systems

Minor Requirements

Required Courses (11 credit hours)
ITSC 1212 - Introduction to Computer Science I (4)
ITSC 1213 - Introduction to Computer Science II (4)
ITSC 2214 - Data Structures and Algorithms (3)

1st Elective Course (3 credit hours)
Select one of the following:
ITIS 3130 - Human-Centered Design (3)
ITIS 4350 - Rapid Prototyping (3)

2nd Elective Course (3 credit hours)
Select one of the following:
ITIS 3135 - Web-Based Application Design and Development (3)
ITIS 4180 - Mobile Application Development (3)
ITIS 4440 - Interactive Systems Design and Implementation (3)

Grade Requirements

All courses must be completed with a grade of C or above.

Minor Total = 17 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

- Approval of Department of Software and Information Systems

Minor Requirements

Required Courses (14 credit hours)
ITSC 1212 - Introduction to Computer Science I (4)
ITSC 1213 - Introduction to Computer Science II (4)
ITSC 2214 - Data Structures and Algorithms (3)
ITSC 3155 - Software Engineering (3)

Elective Course (3 credit hours)
Select one of the following:
ITIS 3130 - Human-Centered Design (3)
ITIS 3135 - Web-Based Application Design and Development (3)
ITIS 4166 - Network-Based Application Development (3)
ITIS 4180 - Mobile Application Development (3)
ITIS 4350 - Rapid Prototyping (3)

Grade Requirements
All courses must be completed with a grade of C or above.

Minor Total = 17 Credit Hours

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
- 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

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

Double-Counted Courses
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).

More Information
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: 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
- 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

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 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

Double-Counted Courses
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:

Graduate Level Substitutes	Undergraduate Course Equivalent
ITIS 5166 - Network-Based Application Development (3)	ITIS 4166 - Network-Based 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 Studio (3)
ITIS 5350 - Rapid Prototyping (3)	ITIS 4350 - Rapid Prototyping (3)

Graduate Level Substitutes	Undergraduate Course Equivalent
ITIS 6120 - Applied Databases (3)	ITCS 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 and Project Management (3)
ITIS 6370 - Interactive Systems Design and Implementation (3)	ITIS 4440 - Interactive Systems Design and Implementation (3)
ITIS 6400 - Human-Centered Design (3)	ITIS 3130 - Human-Centered Design (3)
ITIS 6420 - Usable Security and Privacy (3)	ITIS 4420 - Usable Security and Privacy (3)
5166 - Network-Based Application Development (3)	ITIS 4166 - Network-Based 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 Studio (3)

More Information

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 Public Health Sciences" 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**



Degree Programs

Majors

- Child and Family Development: (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
- Child and Family Development (non-licensure)
- Foreign Language Education (grades K-12 licensure)*
- Reading Education (grades K-12 licensure)**
- Secondary Education (grades 9-12 licensure)***
- Teaching English as a Second Language (grades K-12 licensure)**
- Urban Youth and Communities (non-licensure)

**The Minor in Foreign Language Education, offered in collaboration with the Department of Languages and Culture Studies in the College of Liberal Arts & 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 Liberal Arts & Sciences, leads to licensure to teach in one of the following areas of Secondary Education (grades 9-12):*

- *Biology*
- *Comprehensive Science*
- *Comprehensive Social Studies*
- *Chemistry*
- *Earth Science*
- *English*
- *Mathematics*
- *Physics*

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 diversity and to speaking out against oppression. 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 purpose of the Education Honors Program is to identify undergraduate candidates who consistently OR have the potential to demonstrate high task commitment, achievement, and/or creativity. Potential candidates may exhibit these behaviors in any area of study, research, leadership, or service. Secondly, the aim of the Education Honors Program is to provide these exceptional students with the opportunity to contribute productively and creatively to society through the field of education during their undergraduate careers. The Education Honors Program is designed to further develop candidates'

scholarship, research, leadership, and advocacy skills through enrichment, mentorships, and the pursuit of an in-depth study of a candidate-selected topic of interest.

Admission Requirements

Admission to the Honors in Education program requires the following:

1) Declared major in a discipline within the Cato College of Education
2) Admission to a teacher education or licensure program with a minimum 3.50 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.
3) Completion of 15 credit hours of coursework (including EDUC 1100 or EDUC 2100 or MDSK 2100) prior to application for the Honors in Education Program
4) Completed application form and recommendation by academic advisor and faculty member
5) 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 Chair of the Education Honors Committee to discuss their interest, motivation, and academic plan of study.

Certification 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)

Other Requirements

- Have the potential for or demonstrated high task commitment, achievement, and/or creativity in an area of study, research, leadership, or 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 report to the Honors Project Review Committee
- Orally present and defend the Honors Project before the Honors Project Review Committee (research advisor, thesis 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

Grade Requirements

- EDUC 3789 and RSCH 4101 must be completed with a grade of A or B
- CUYC 3600, EDUC 3790, or EDUC 4201 must be completed with a grade of A
- Maintain a cumulative minimum GPA of 3.5 in all UNC Charlotte coursework

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 Faculty Site Coordinator

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)
- Collaboration with departments within the College of Arts + Architecture and the College of Liberal Arts & Sciences concerning admission to teacher education programs when those departments have teacher education tracks or degrees
- Academic support services for both students and their 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 education.charlotte.edu/cstem.

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 freshman *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
- Eileen Bird 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

Student Organizations

Examples of organizations that are especially relevant to undergraduate students in teacher education programs include:

- **Student National Education Association -** The Student National Education Association (SNEA), 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.

Department of Educational Leadership

edld.charlotte.edu

Undergraduate Programs

- **Early Entry: Graduate Certificate in Learning, Design, and Technology, Online Learning and Teaching Concentration**

Please see the *UNC Charlotte Graduate Catalog* for graduate programs and degrees related to the Department of Educational Leadership.

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

- 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.

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
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree

Double-Counted Courses

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).

More Information

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 Foreign Language Education (K-12)
- Minor in Secondary Education
- Minor in Teaching English as a Second Language
- Minor in Urban Youth and Communities
- Early Entry: Graduate Certificate in Foreign Language 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).

Bachelor of Arts in Middle Grades Education

The B.A. program in Middle Grades Education qualifies graduates for the Standard Professional 1 (SP1) Professional Educator's License in two 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 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:

- Completion of the following courses with a minimum grade of a C by the end of the semester of application
  - EDUC 1100 - Foundations of Education and Diversity in Schools - Prospect Curriculum (4)
    or - EDUC 2100 - Foundations of Education and Diversity in Schools (3)
  - 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
- Approval of the Chair (or his or her designee) of the department that offers the program

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 (31-35 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. 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 (14 credit hours)
Select two of four academic concentrations to complete - the combinations may include: math/science; math/English; math/social studies; science/English; science/social studies; or English/social studies. Admission to Teacher Education and advisor approval are required in order to register for any of the following courses.

MDLG 3130 - The Early Adolescent Learner (3)
MDLG 3131 - The Philosophy and Curriculum of Middle Grades Education (3)
MDLG 4440 - Student Teaching/Seminar: 6-9 Middle Grades Education (12) (O,W)
MDSK 3100 - Inclusive Classrooms (3)
MDSK 3151 - Instructional Design and Technology Integration (3) (W)
MDSK 4210 - Classroom Leadership (2)

Methodology Courses (6 credit hours)
Select two of the following methodology courses that align 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 (6 credit hours)
Students are required to take two different sections of MDSK 4300 specific to their concentration areas (English, Science, Social Studies, Math). The course can be repeated a maximum of 2 times for a total of 6 credit hours.

Concentration Area 1
MDSK 4300 - Content Area Instruction and Assessment (3)

Concentration Area 2
MDSK 4300 - Content Area Instruction and Assessment (3)

Internship (12 credit hours)
A yearlong internship (YLI) is a requirement for completion of the major. This YLI must begin one semester prior to student teaching. An application is required for admission to the YLI and must be completed early in the semester prior to beginning the internship (see the Office of School and Community Partnerships website at osacp.charlotte.edu for YLI application deadlines). Student teaching is required the last semester upon completing all other coursework required for the major. Student teaching requires an additional application, that students meet all GPA requirements, and includes the undergraduate advisor's recommendation.

During the first semester of the senior yearlong internship, 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. Students must enroll in the following student teaching internship course in addition to applying to student teach. See the Office of School and Community Partnerships website at osacp.charlotte.edu for more information.

MDLG 4440 - Student Teaching/Seminar: 6-9 Middle Grades Education (12) (O,W)

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

Additional 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.

Degree Total = 120 Credit Hours

Grade Requirements
Minimum Grades/GPA:
- 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

Recommendation for licensure must include:
- A grade of A or B in student teaching with recommendation from Cooperating Teacher, University Supervisor, and Principal
- A score of “Proficient” or “Accomplished” on all criteria for state-required electronic evidences, including licensure testing requirements

Academic Advising
The Middle Grades Education major has a very structured curriculum. Freshmen and Sophomores 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 (typically the Junior and Senior years).

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 29 credit hours, including foreign language methodology and assessment courses, and 12 hours for the student teaching semester.

Admission Requirements

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:

- 45 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/1100/EDUC 2100 and SPED 2100
- Passing scores on the SAT, ACT, or Praxis Core tests
- Recommendation of major advisor

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 Junior and Senior level coursework in the major, with the final semester being full-time student teaching. 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

Pre-Internship (11 credit hours)

MDSK 3100 - Inclusive Classrooms (3)
MDSK 3151 - Instructional Design and Technology Integration (3) (W)
MDSK 4210 - Classroom Leadership (2)
MDLG 3130 - The Early Adolescent Learner (3)
or SECD 4140 - Adolescence and Secondary Schools (3)

Yearlong Internship (18 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 4104 - Assessment in the Teaching of K-12 Foreign Languages (2)
FLED 4200 - Methods in Teaching Foreign Languages (3)
MDSK 4100L - Content Pedagogy Lab (1)
FLED 4469 - Student Teaching/Seminar: K-12 Foreign Language (12) (O,W)

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, 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 = 29 Credit Hours

Grade 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 A or B in student teaching with recommendation from Cooperating Teacher, University Supervisor, and Principal
- A score of "Proficient" or "Accomplished" on all criteria for state-required electronic evidences, including licensure testing requirements

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 32 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, Earth Science, 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 or Geography; the Comprehensive Science license builds on a Major in Biology, Chemistry, Earth Science, 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

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:

- 45 earned credit hours
- GPA of 2.7 or above
- Major in a subject area for which there is teacher licensure (English, math, biology, chemistry, earth sciences, physics, history, and geography)
- Grade of C or above in MDSK 2100
- Passing scores on the SAT, ACT, or Praxis Core tests
- Recommendation of major advisor

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 Junior and Senior level 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 Liberal Arts & 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 (32-38 credit hours)
For details on required courses, refer to the General Education program. These course requirements vary with a student's academic major in the College of Liberal Arts & Sciences and are defined by faculty in each major.

Core and Related Courses in an Appropriate College of Liberal Arts & Sciences Major (30-78 credit hours)
Academic majors relevant to secondary education include Biology, Chemistry, Earth Sciences, 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 - Inclusive Classrooms (3)

Semester 2 (8 credit hours)
MDSK 3151 - Instructional Design and Technology Integration (3) (W)
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 (12 credit hours)
(Second Semester of Yearlong Internship)
SECD 4440 - Student Teaching/Seminar: 9-12 Secondary Education (12) (O,W)

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 = 32 Credit Hours

Grade 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 A or B in student teaching with recommendation from Cooperating Teacher, University Supervisor, and Principal
- A score of "Proficient" or "Accomplished" on all criteria for state-required electronic evidences, including licensure testing requirements

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 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 Sophomore year or beginning of the Junior 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
Students interested in pursuing TESL 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.

Declaring the minor 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.). After declaring 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 Junior and Senior level coursework in the major. The final semester includes an advanced seminar/practicum in TESL. 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 - Inclusive Classrooms for Immigrant Students (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

Minor in Urban Youth and Communities
The Minor in Urban Youth and Communities 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
The Minor in Urban Youth and Communities is open to all majors and can be declared at any time. No minimum GPA is required for admission to the Minor in Urban Youth and Communities 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 College of Education majors. The minor also requires a capstone project completed after all other minor requirements have been completed or simultaneously with enrollment in the capstone course.

Core Courses (3-6 credit hours)
All majors except College of Education majors:
LBST 2301 - Critical Thinking and Communication (3)

College of Education majors only:
EDUC 3200 - Service Learning Teaching Methods for K-12 Educators (3)
LBST 2301 - Critical Thinking and Communication (3)

Elective Courses (6-9 credit hours)
For the Minor in Urban Youth and Communities, 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)
CHFD 2111 - Foundations in Child and Family Development (3)
CJUS 2361 - Juvenile Justice (3)
EDUC 2100 - Foundations of Education and Diversity in Schools (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 2120 - Child Psychology (3)
PSYC 2121 - Adolescent Psychology (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)
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

Grade Requirements
In courses applied to the minor, students must maintain a GPA of 2.0 or above.

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
- 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

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
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree

Double-Counted Courses
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)

More Information

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 Elementary 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 offers an M.Ed. in Elementary Education program, which includes concentrations in Math, Literacy, AIG, and Anti-Racism. 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 and in Curriculum and Education Development. See the *Graduate Catalog* for details on these graduate degree programs.



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)

Freshmen and Transfers*

- *Minimum 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 2100**
  - SPED 2100**
- *Other:*
  - 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
  - Recommendation of Advisor
  - Approval of the Chair (or his or her designee) of the department that offers the program
- *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.

** 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 2100 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.*

Degree Requirements

The Major in Elementary Education leading to the B.A. degree requires a minimum of 120 credit hours.

General Education Courses (31-35 credit hours)

For details on required courses, refer to the General Education program. 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)

Foundation Courses (6-7 credit hours)

EDUC 2100 - Foundations of Education and Diversity in Schools (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 2100 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 - Modifying Instruction for Learners with Diverse 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 and Diversity (3) (W)
ELED 3226 - Teaching Language Arts to Elementary School Learners (3) (W)
ELED 3292 - Theories and Practice for Equity 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 Diversity in the Elementary School Classroom (3)
ELED 4420 - Student Teaching/Seminar: K-6 Elementary Education (15) (0)
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 LBST Arts and Society course:

ARTE 2121 - Integrating Art Across the Curriculum (3)
MUSC 1102 - Fundamentals of Musicianship (3) -
MUSC 2191 - Incorporating Music Into the Elementary Classroom (3)
THEA 1360 - Applied Theatre in Communities and Schools (3)
Others approved by the advisor

Unrestricted Elective Courses

As needed to complete the credit hours required for graduation.

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.

Additional 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.

Grade Requirements

All Elementary Education (ELED) students 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.

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
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 2.75 and be approved for admission to the minor by demonstrating the potential for academic achievement commensurate with 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 (3)
or EDUC 2100 - Foundations of Education and Diversity in Schools (3)
INTL 1101 - Introduction to International Studies (3)

Phase II: Global Studies Courses (6 credit hours)
Required Global Studies Course
LBST 2301 - 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

Grade 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
Students interested in pursuing a Minor in Reading Education must be approved for admission to the minor by demonstrating a GPA of at least 2.7, obtaining a grade of C or above in all professional courses, and 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).

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.). After declaring the minor, advising is offered through the Department of Reading and Elementary Education in collaboration with advising in the student's major department. The minor is designed to be coordinated with Junior and Senior level coursework in the major. 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)

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)
TESL 4204 - Inclusive Classrooms for Immigrant Students (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) (W)
READ 4205 - Reading and Writing Across Digital Spaces (3)
READ 4270 - Investigating Reading Curriculum (3)

Total = 18 Credit Hours

Early Entry: Master of Education in Elementary Education or 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

- 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

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
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree

Double-Counted Courses

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).

More Information

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

- 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

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
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree

Double-Counted Courses

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).

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) (W)	READ 6252 - K-12 Writing Development and Instruction (3) or READ 6255 - Middle/Secondary Reading and Writing (3)
READ 4270 - Investigating Reading Curriculum (3)	READ 6252 - K-12 Writing Development and Instruction (3) or READ 6255 - Middle/Secondary Reading and Writing (3)

More Information

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 Child and Family Development**
- **B.A. in Special Education**
- **B.A. in Special Education General Curriculum and Elementary Education K-6 Dual Degree**
- **Minor in Child and Family Development**
- **Early Entry: Graduate Certificate in Academically or Intellectually Gifted**

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 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 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

Bachelor of Arts in Child and Family Development

The B.A. degree in Child and Family Development 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 and education.

4-Year Program

Admission Requirements (Pre-Education)

Freshmen

- *Minimum GPA:* 2.7
- *Pre-Major/Prerequisite Courses:* A minimum of 45 credit hours in approved college-level courses, and a grade of C or above in the following:
  - EDUC 1100 or EDUC 2100
  - SPED 2100
- *Other:*
  - 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
  - Approval of the Chair (or his or her designee) of the department that offers the program
- *Declaration of Major:* The Child and Family Development 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 Child and Family Development leading to the B.A. degree requires a minimum of 120 credit hours.

General Education Courses (31-35 credit hours)

For details on required courses, refer to the General Education program. 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 1101 - Introduction to Sociology (3)

Foundation Courses (6-7 credit hours)

EDUC 2100 - Foundations of Education and Diversity in Schools (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 2100 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 Child and Family Development.*

Major Courses (63 credit hours)
CHFD 2111 - Foundations in Child & Family Development (3)
CHFD 2113 - Development: Prenatal to 36 Months (3)
CHFD 2412 - The Practice of Observation, Documentation, and Analysis of Young Children's Behavior (3)
ELDT 4100 - Computer Applications in Education (3)

Admission to Teacher Education and advisor approval are required in order to register for any of the following courses:
CHFD 3112 - Supporting Diverse Young Learners – Birth through Kindergarten (3)
CHFD 3113 - Families as the Core of Partnerships (3)
CHFD 3114 - Responsive Approaches for Infants and Toddlers (3)
CHFD 3115 - An Ecological Approach to Learning and Development – Early Childhood to Pre-Adolescence (3) (W)
CHFD 3116 - Approaches to Integrated Curriculum for Young Children (3-8) (3)
CHFD 3118 - Approaches to Family Supports and Resources (3) (W)
CHFD 3414 - Language, Literacy, and Mathematical Thinking of Young Children: Birth-Kindergarten (3)
CHFD 3416 - Internship: Child and Family Development (3)
CHFD 4410 - Student Teaching/Seminar: B-K Child and Family Development (15) (0)**
SPED 3210 - Enhancing the Social-Emotional Development of Young Children in Inclusive Settings (3)
SPED 4111 - Issues in Early Intervention for Young Children with Disabilities (3)
SPED 4112 - Authentic Approaches to the Assessment of Young Children with Disabilities: Birth-Kindergarten (3)
SPED 4210 - Developmental Interventions for Young Children with Disabilities: Birth through Kindergarten (3)

***Enrollment in CHFD 4410 requires admission to student teaching through the College's Office of School and Community Partnerships.*

Restricted Elective Courses (12 credit hours)
Select four 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) (W)
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 4134 - Families and Aging (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) (W)
SOCY 4168 - Sociology of Mental Health and Illness (3) (W)
SOCY 4172 - Sociology of Deviant Behavior (3)
SOCY 4173 - Sociology of Deviant Behavior - Writing Intensive (3) (W)
SOCY 4265 - Social Psychology of Law (3) (W)
Other 4000-level SOCY course with approval

Psychology Courses
PSYC 2120 - Child Psychology (3)
PSYC 2121 - Adolescent Psychology (3)
PSYC 2126 - Introduction to the Psychology of Women and Gender (3)
PSYC 2130 - Introduction to Social Psychology (3)
PSYC 2150 - Psychology of Adjustment (3)
PSYC 2155 - Psychological Approaches to Diversity (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 - Inclusive Classrooms for Immigrant Students (3)
TESL 4600 - Literacy Development for Second Language Learners (3)

Children's Literature and Childhood Studies Minor Courses
EDUC 2150 - Human Development Across the Life Span (3)
ENGL 2074 - Topics in Children's Literature, Media, and Culture (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) (W)
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
AMST 3210 - Childhood in America (3)
ANTH 1101 - Introduction to Anthropology (3)
ARTE 2121 - Integrating Art Across the Curriculum (3)
CHFD 4200 - Child Life: Supporting Children and Families (3)
RELS 3215 - Religion and Sexuality (3)
PSYC 2160 - 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
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

2+2-Year Program

Admission Requirements (Pre-Education)

Transfers

- *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 2100 (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 30 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 30 credit hours of General Education courses follows the 2+2 Articulation Plan
    - A.A.S. degree in Early Childhood (Non-Licensure Track) without 30 credit hours of General Education credits must complete additional General Education credits to meet the 30 credit requirement
- *Other:*
  - 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
  - Approval of the Chair (or his or her designee) of the department that offers the program
- *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. in Child and Family Development 2+2-year degree 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. Requirements in the major satisfy the Writing in the Disciplines (W) and Oral Communications (O) requirements.

Major Courses (51 credit hours)

Admission to Teacher Education and advisor approval are required in order to register for any of the following courses:

CHFD 3112 - Supporting Diverse Young Learners – Birth through Kindergarten (3)
CHFD 3113 - Families as the Core of Partnerships (3)
CHFD 3114 - Responsive Approaches for Infants and Toddlers (3)
CHFD 3115 - An Ecological Approach to Learning and Development – Early Childhood to Pre-Adolescence (3) (W)
CHFD 3116 - Approaches to Integrated Curriculum for Young Children (3-8) (3)
CHFD 3118 - Approaches to Family Supports and Resources (3) (W)
CHFD 3414 - Language, Literacy, and Mathematical Thinking of Young Children: Birth-Kindergarten (3)
CHFD 3416 - Internship: Child and Family Development (3)
CHFD 4410 - Student Teaching/Seminar: B-K Child and Family Development (15) (O)**
SPED 3210 - Enhancing the Social-Emotional Development of Young Children in Inclusive Settings (3)
SPED 4111 - Issues in Early Intervention for Young Children with Disabilities (3)
SPED 4112 - Authentic Approaches to the Assessment of Young Children with Disabilities: Birth-Kindergarten (3)
SPED 4210 - Developmental Interventions for Young Children with Disabilities: Birth through
h Kindergarten (3)

***Enrollment in CHFD 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

As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Additional Information for the 4-Year and 2+2-Year Programs

Academic Advising

Students who intend to major in Child and Family Development and to earn B-K licensure are classified as Pre-Education students in Child and Family Development. 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 Child and Family Development, 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 2100, 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 Child and Family Development 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 child and family development 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 Child Development (SPCD).

Additional 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.

Grade 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.

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 cognitive disabilities, 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

- *Minimum 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 2100
  - SPED 2100
- *Other:*
  - Passing scores on the Praxis Core: Academic Skills Assessments in Reading, Writing, and Mathematics; or an acceptable substitute score on the SAT or ACT
  - Scores for the practice NC General Curriculum test (available in Canvas)
  - Completion and clearance on the Criminal Background Check
  - Signed Statement of Commitment to Professional Dispositions
  - Recommendation of Advisor
  - Approval of the Chair (or his or her designee) of the department that offers the program
- *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 (31-35 credit hours)

For details on required courses, refer to the General Education program. 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 2100 - Foundations of Education and Diversity in Schools (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 2100 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 (54-60 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:
SPED 3100 - Critical Issues in Special Education (3)
SPED 3173 - Assessment in Special Education (3) (W)
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 4279 - Content Area Instruction for Inclusive Classrooms (3)
SPED 4318 - Collaboration and Transition-Focused Education (3)
SPED 4400 - Integrated Instructional Applications in Special Education (3) (W)
TESL 4204 - Inclusive Classrooms for Immigrant Students (3)

Plus select one of the following:
PSYC 2120 - Child Psychology (3)
PSYC 2121 - Adolescent Psychology (3)
SOCY 4135 - Sociology of Education (3)
SOCY 4168 - Sociology of Mental Health and Illness (3) (W)

Licensure Courses (18-24 credit hours)

Select one of the following licensure areas:

General Curriculum License Courses (18 credit hours)
SPED 4276 - Teaching Reading to Middle and Secondary Learners (3)
SPED 4475 - Student Teaching/Seminar: Special Education K-12: General Curriculum (15) (0)**

Adapted Curriculum License Courses (24 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 4476 - Student Teaching/Seminar: Special Education K-12: Adapted Curriculum (15) (0)**

***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

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 2100, 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.

Additional 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.

Grade 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 must have a GPA of 2.75 in professional courses the semester prior to student teaching. Students may repeat a professional course once. Courses may have required prerequisites, so courses should be taken in the sequence indicated on the plan of study.

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 K-6 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 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)

Freshmen and Transfers

- *Minimum 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 2100
  - SPED 2100
- *Other:*
  - Passing scores on the Praxis Core: Academic Skills Assessments in Reading, Writing, and Mathematics; or an acceptable substitute score on the SAT or ACT
  - Scores for the practice NC General Curriculum test (available in Canvas)
  - Completion and clearance on the Criminal Background Check
  - Signed Statement of Commitment to Professional Dispositions
  - Professional goals statement detailing interest in obtaining dual licensure
  - Recommendation of Advisor
  - Approval of the Chair (or his or her designee) of the department that offers the program
- *Declaration of Major:* The Special 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.

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.

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 (31-35 credit hours)

For details on required courses, refer to the General Education program. 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)

Foundation Courses (6-7 credit hours)
EDUC 2100 - Foundations of Education and Diversity in Schools (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 2100 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 (78 credit hours)
Admission to Teacher Education and advisor approval are required in order to register for any of the following courses:

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 and Diversity (3) (W)
ELED 3292 - Theories and Practice for Equity 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 Diversity in the Elementary School Classroom (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) (W)
SPEL 4171 - Special Education: - Consultation and Collaboration in Elementary Schools (3) (W)
SPEL 4477 - Student Teaching/Seminar: Special Education General Curriculum and Elementary Education K-6 (Dual Program) (15) (0)
TESL 4204 - Inclusive Classrooms for Immigrant Students (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 1360 - Applied Theatre in Communities and Schools (3)

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

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.

Additional 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.

Grade 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 must have a GPA of 2.75 in professional courses the semester prior to student teaching. Students may repeat a professional course once. Courses may have required prerequisites, so courses should be taken in the sequence indicated on the plan of study.

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 Child and Family Development

The Minor in Child and Family Development 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

In order to declare the Minor in Child and Family Development, students must have an overall GPA of at least 2.7. 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 Child and Family Development 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.

Minor Requirements

CHFD 2111 - Foundations in Child and Family Development (3)*
CHFD 2113 - Development: Prenatal to 36 Months (3)*
CHFD 2412 - The Practice of Observation, Documentation, and Analysis of Young Children's Behavior (3)
CHFD 3113 - Families as the Core of Partnerships (3)
SPED 3210 - Enhancing the Social-Emotional Development of Young Children in Inclusive Settings (3) -
SPED 4111 - Issues in Early Intervention for Young Children with Disabilities (3)

**CHFD 2111 and/or CHFD 2113 must be the first courses completed.*

Minor Total = 18 Credit Hours

Grade Requirements

Students who declare the Minor in Child and Family Development are required to complete the above six courses and maintain a GPA of at least 2.5 overall and in the minor. A minimum grade of C or above in the courses is required.

Early Entry: Graduate Certificate in Academically or Intellectually Gifted

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

- 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 3.4 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

Continued Enrollment 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

Double-Counted Courses

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).

More Information

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*.

The William States Lee *College of* Engineering



The William States Lee College of Engineering

engr.charlotte.edu

The William States Lee College of Engineering's vision is that:

> The College is ***the engineering college of first choice*** for students, faculty, staff, and industry partners discovering, integrating, applying, and disseminating knowledge.

The College provides quality educational experiences and discovers and disseminates knowledge that serves the citizens and industries of the Carolinas, and the national and the international communities.

The Lee College of Engineering offers baccalaureate degree programs in Engineering, Engineering Technology, and Construction Management. On the graduate level, the College offers programs leading to master's degrees in Engineering, Construction and Facilities Engineering, Energy and Electromechanical Engineering, Fire Protection and Safety Management, and Engineering Management; Ph.D.s in Civil Engineering, Electrical Engineering, and Mechanical Engineering; and 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:

- **Department of Civil and Environmental Engineering**
- **Department of Electrical and Computer Engineering**
- **Department of Engineering Technology and Construction Management**
- **Department of Mechanical Engineering and Engineering Science**
- **Department of Systems Engineering and Engineering Management**

Degree Programs

Engineering Programs

The baccalaureate programs in engineering offer a professional engineering education that can be used as the foundation for several different career objectives: careers as professional engineers in industry, business, or consulting; graduate study to prepare for careers in research, development, or teaching; and a more general and more liberal engineering education with the objective of keeping a variety of career paths open.

Whatever the career objective of the student, a sound engineering educational program is provided. The course of study will involve 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 his or her program, while the student preparing for graduate study might emphasize the mathematics and science aspects. Some engineering graduates ultimately take on executive and management responsibilities in industries and firms that are based upon engineering products and engineering services. These students may choose to construct an elective option in their program, including economics and business-related courses that strengthen their communication skills 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.

Majors

- Bachelor of Science in Civil Engineering (B.S.C.E.)
- Bachelor of Science in Electrical Engineering (B.S.E.E.)
- Bachelor of Science in Computer Engineering (B.S.CP.E.)
- Bachelor of Science in Mechanical Engineering (B.S.M.E.)
- Bachelor of Science in Systems Engineering (B.S.S.E.)

Minors
- Minor in Electrical Engineering
- Minor in Computer Engineering

Engineering Technology Programs
Engineering technology is the profession in which knowledge of mathematics and natural sciences gained by 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 primarily on the applied aspects of science and engineering aimed at preparing graduates for practice in that portion of the technological spectrum closest to the product improvement, manufacturing, construction, and engineering operational functions.

Engineering technology programs are characterized by a focus on application and practice and on 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, production, and construction. 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
- Bachelor of Science in Engineering Technology (BSET)

Construction Management Program
Construction management provides the education necessary for entry into the construction industry in a variety of careers in the residential, commercial, and industrial sectors, as well as infrastructure, and heavy horizontal construction. Related careers in real estate and land development, infrastructure development, code enforcement, and insurance are also career options.

The program is enhanced by a business/management core that includes courses in statistics, computer applications, economics, accounting, engineering economics, business management, business law, finance, and construction law. The Construction Management program shares a common lower division (Freshman and Sophomore year) curriculum with the Civil Engineering Technology Program. This provides a two-year opportunity to determine which program best fits the desired academic objective and allows students who are interested to complete a double major in both Construction Management and Civil Engineering Technology.

Majors
- Bachelor of Science in Construction Management (BSCM)

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 Senior Design capstone experience in their home department. Admission to the program is based on the student's demonstrated honors potential and is determined by examining the cumulative GPA (minimum 3.5 for currently enrolled or transfer students), academic and other distinctions, activities, and other related factors. All admitted students must maintain a minimum 3.5 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)

Certification 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 3.5 overall and a grade of A must be earned in the departmental Senior Design 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 3.2, as compared to non-participants with an average first-semester GPA of 2.7. 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 more than 200 College of Engineering freshmen 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 Freshman courses are offered on-site. Other events such as engineering site visits, special study nights, 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 potential 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 a current, real-world perspective on being a successful leader and communicator in business and in the community. Selected students who fulfill all requirements of the program receive transcript notation. For details, visit osds.charlotte.edu/leadership-academy.

Engage ME!

Engage ME! is a diversity and inclusion program intended to build a strong community of College of Engineering students and to connect them with multiple opportunities outside of the college. The program recruits, retains, and graduates multicultural students from all degree programs. Social networking opportunities and activities, mentoring programs, and events foster academic and professional development. The program positions students to recognize and seize opportunities for success. For details, visit 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 job placement for College of Engineering women students. For details, visit osds.charlotte.edu/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 alternates semesters of full-time academic study with semesters of full-time work experience in industry. Students may also do back-to-back Co-op experiences if their Fall or Spring semester Co-op session is combined with a Summer session. The work experience is under the direction of the student's major department and is closely related to his or her field of study. Students who fulfill all requirements of the Co-op program receive transcript notation, can earn up to three credit hours for a technical elective, and will receive partial credit toward the professional practice requirement for registration as 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 2.5. 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 almost 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 part-time. Summer internships may be full- or part-time. All students are eligible to apply for and accept internships posted in Hire-A-Niner.

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.

Department of Civil and Environmental Engineering

cee.charlotte.edu

Undergraduate Programs

- B.S. in Civil Engineering
  - Energy Infrastructure
  - Land Development Engineering
- Early Entry: M.S. in Civil Engineering

The Department of Civil and Environmental Engineering provides outstanding educational and research experiences for students at all levels. Undergraduate students are exposed to technical content in all four civil engineering disciplines, including Environmental/Water Resources Engineering, Geotechnical Engineering, Structures, and Transportation, as part of the required curriculum. Students can also elect to earn a concentration in Land Development Engineering or Energy Infrastructure. Graduate students typically complete research and/or coursework focusing on one of these technical areas.

Some of the challenges faced by Civil Engineers include: 1) the analysis, design, construction, and monitoring of foundation systems, buildings, bridges, dams, and other structures; 2) water resources for urban use, industry, and land reclamation; 3) systems for water transmission and river control; 4) water quality control systems for purification and waste treatment; 5) transportation systems including highways, mass transit, airports, railroads, pipelines, canals, and harbor facilities; 6) solutions for environmental problems including air pollution, ground pollution, water pollution, noise pollution, ecological effects, land development, and urban and regional planning; and 7) power infrastructure design and testing. Civil engineers must balance the need for constructed facilities with the need to protect natural and social environments while safeguarding the health, safety, and welfare of the public.

Degree Programs

Civil and Environmental Engineering students can pursue the following degrees:

- Bachelor of Science in Civil Engineering (B.S.C.E.)
- 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)

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

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., students also have two options for an accelerated Master's degree:

1) Incoming freshmen 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 3.2 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*.

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.

Admission Requirements

Freshmen

Freshman admission is competitive. Based upon an overall evaluation of high school record with particular emphasis on advanced courses in math and science and SAT or ACT scores, freshmen may be admitted directly to an engineering major or as engineering undecided.

- *Minimum GPA:* n/a
- *Pre-Major/Prerequisite Courses:* Freshmen MUST present a pre-calculus equivalent course, a math course during the high school senior year (grade 12/13) or math intensive science course such as physics or chemistry if no math courses are available, with no grades below C in any math courses. Students with AP test scores of at least 3 on AP Calculus AB or BC or early college high school students who present transfer credit for calculus equivalent to MATH 1241 or higher are exempted from having a math course in the senior year.
- *Other:* Minimum SAT-Math score of 570 or ACT-Math subscore of 23
- *Declaration of Major:* Students may declare the major at time of admission or at any time if in good standing with the College and University.

Transfers

All transfer students will be admitted to the lower division of a department, and evaluation of transfer credits follows the North Carolina articulation agreements. 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.

- *Minimum GPA:* 2.5 (3.0 for Mechanical Engineering)
- *Pre-Major/Prerequisite Courses:* Calculus I course (with grade of C or above) equivalent to MATH 1241
- *Transferable Credit Hours:* 24

Academic Progression Requirements

Freshman Year Requirements

All new freshmen, early college students, and transfer students with only one year 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 2.250 GPA in the first semester.
- Complete all non-elective courses in the Freshman year curriculum with grades of C or above.
- Pass all courses within three attempts, including withdrawing from a course with a grade of W.

- Complete the Freshman curriculum within three regular semesters, if starting in the required first semester mathematics course.
- Earn a 2.500 cumulative GPA upon completion of the Freshman curriculum.

Sophomore through Senior Year Requirements
- Maintain an overall GPA of 2.000 in the University.
- Maintain a major cumulative GPA of 2.000 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 two 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 reenroll 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. Readmission to the College of Engineering after a University suspension is not automatic. An application for readmission must be made by the student and approved by the College/department. Students who are readmitted 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.

Degree Requirements

General Education Courses (18-19 credit hours)

For details on required LBST, UWRT, and Social Sciences courses, refer to the General Education program. 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.

Foundation Courses (30 credit hours)

Required Foundation Courses (27 credit hours)

CHEM 1251 - General Chemistry I (3)*
CHEM 1251L - General Chemistry I Lab (1)*
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 and Engineering I (3)*
PHYS 2101L - Physics for Science and Engineering I Lab (1)*
STAT 3128 - Probability and Statistics for Engineers (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)

Major Courses (48 credit hours)

ENGR 1201 - Introduction to Engineering Practices and Principles I (2)*
ENGR 1202 - Introduction to Engineering Practices and Principles II (2)*
CEGR 2102 - Engineering Economic Analysis (3)*
CEGR 2103 - Surveying and Technical Drawing (3)*
CEGR 2154 - Design Project Lab (2) (0)*
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 Lab (2) (W)
CEGR 3155 - Environmental Lab (2) (W)
CEGR 3161 - Transportation Engineering I (3)*
CEGR 3201 - Systems and Design (3)
CEGR 3255 - Structural Materials I Lab (2) (W)*
CEGR 3258 - Geotechnical Lab (2) (W)
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 (24 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 4278 - Geotechnical Engineering II (3)*
CEGR 4264 - Landfill Design (3)*
CEGR 4270 - Earth Pressures and Retaining Structures (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 (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 4144 - Advanced Ecology (4) (W)
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) (O,W)
CMET 4127 - Construction Law and Regulatory Issues (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 - Energy and 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 2120 - Geographic Information Systems: Survey of Applications and Techniques (4)
GEOG 3100 - The City and Its Region (3)
GEOG 3115 - Urban Transportation Problems (3) (W)
GEOG 3150 - Manufacturing Geography (3)
GEOG 3200 - Land Use Planning (3)
GEOG 3210 - Regional Planning (3)
GEOG 3215 - Environmental Planning (3) (W)
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

Degree Total = 120 Credit Hours

Grade Requirements
A grade of C or above is required for select Major Courses, as noted above.

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
Freshmen
Freshman admission is competitive. Based upon an overall evaluation of high school record with particular emphasis on advanced courses in math and science and SAT or ACT scores, freshmen may be admitted directly to an engineering major or as engineering undecided.

- *Minimum GPA:* n/a
- *Pre-Major/Prerequisite Courses:* Freshmen MUST present a pre-calculus equivalent course, a math course during the high school senior year (grade 12/13) or math intensive science course such as physics or chemistry if no math courses are available, with no grades below C in any math courses. Students with AP test scores of at least 3 on AP Calculus AB or BC or early college high school students who present transfer credit for calculus equivalent to MATH 1241 or higher are exempted from having a math course in the senior year.
- *Other:* Minimum SAT-Math score of 570 or ACT-Math subscore of 23
- *Declaration of Major:* Students may declare the major at time of admission or at any time if in good standing with the College and University.

Transfers
All transfer students will be admitted to the lower division of a department, and evaluation of transfer credits follows the North Carolina articulation agreements. 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.

- *Minimum GPA:* 2.5 (3.0 for Mechanical Engineering)
- *Pre-Major/Prerequisite Courses:* Calculus I course (with grade of C or above) equivalent to MATH 1241
- *Transferable Credit Hours:* 24

Academic Progression Requirements
Freshman Year Requirements
All new freshmen, early college students, and transfer students with only one year 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 2.250 GPA in the first semester.
- Complete all non-elective courses in the Freshman year curriculum with grades of C or above.
- Pass all courses within three attempts, including withdrawing from a course with a grade of W.
- Complete the Freshman curriculum within three regular semesters, if starting in the required first semester mathematics course.
- Earn a 2.500 cumulative GPA upon completion of the Freshman curriculum.

Sophomore through Senior Year Requirements
- Maintain an overall GPA of 2.000 in the University.
- Maintain a major cumulative GPA of 2.000 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 two 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 reenroll 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. Readmission to the College of Engineering after a University suspension is not automatic. An application for readmission must be made by the student and approved by the College/department. Students who are readmitted 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.

Degree Requirements

General Education Courses (18-19 credit hours)

For details on required LBST, UWRT, and Social Sciences courses, refer to the General Education program. 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.

Foundation Courses (30 credit hours)

Required Foundation Courses (27 credit hours)

CHEM 1251 - General Chemistry I (3)*
CHEM 1251L - General Chemistry I Lab (1)*
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 and Engineering I (3)*
PHYS 2101L - Physics for Science and Engineering I Lab (1)*
STAT 3128 - Probability and Statistics for Engineers (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 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 (48 credit hours)

ENGR 1201 - Introduction to Engineering Practices and Principles I (2)*
ENGR 1202 - Introduction to Engineering Practices and Principles II (2)*
CEGR 2102 - Engineering Economic Analysis (3)*
CEGR 2103 - Surveying and Technical Drawing (3)*
CEGR 2154 - Design Project Lab (2) (0)*
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 Lab (2) (W)
CEGR 3155 - Environmental Lab (2) (W)
CEGR 3161 - Transportation Engineering I (3)*
CEGR 3201 - Systems and Design (3)
CEGR 3255 - Structural Materials I Lab (2) (W)*
CEGR 3258 - Geotechnical Lab (2) (W)
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 (24 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 4278 - Geotechnical Engineering II (3)*
CEGR 4264 - Landfill Design (3)*
CEGR 4270 - Earth Pressures and Retaining Structures (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:

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 – Civil Engineering Elective
CEGR 4000-4999 – Civil Engineering Elective

Technical Elective Courses (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 4144 - Advanced Ecology (4) (W)
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) (O,W)
CMET 4127 - Construction Law and Regulatory Issues (3)
FINN 3120 - Financial Management (3)
MKTG 3110 - Marketing Concepts (3)

Chemistry
CHEM 1252 - General Chemistry II (3)
CHEM 2000-4999

Computer Science
ITCS 3000-4999

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

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 - Energy and Environmental Economics (3)
ECON 3000 level or above course

Engineering
CEGR 3000-4999
ECGR 3000-4999
MEGR 3000-4999
SEGR 3000-4999

Geography
GEOG 2120 - Geographic Information Systems: Survey of Applications and Techniques (4)
GEOG 3100 - The City and Its Region (3)
GEOG 3115 - Urban Transportation Problems (3) (W)
GEOG 3150 - Manufacturing Geography (3)
GEOG 3200 - Land Use Planning (3)
GEOG 3210 - Regional Planning (3)
GEOG 3215 - Environmental Planning (3) (W)
GEOG 4155 - Retail Location (3)
GEOG 4160 - The Geography of Transportation Systems (3)
GEOG 3000-4999

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)
OPRS 3000-4999

Statistics
STAT 3000 level or above course

Concentration Requirements

Of the 120 required credit hours in the B.S.C.E. degree, students opting for this concentration must complete a minimum of 15 credit hours that satisfy the following requirements:

Concentration Courses (12 credit hours)
CEGR 4122 - Power Plant Design (3)
CEGR 4246 - Energy and the Environment (3)
ECGR 2161 - Basic Electrical Engineering I (3)
MEGR 3111 - Thermodynamics (3)

Concentration Elective Courses (3 credit hours)
Select one of the following:
CEGR 4090 - Air Pollution (3)
CEGR 4108 - Finite Element Analysis and Applications (3)
CEGR 4146 - Advanced Engineering Hydraulics (3)
CEGR 4162 - Transportation Planning - (3)
CEGR 4182 - Transportation Environmental Assessment (3)
CEGR 4222 - Structural Steel Design II (3)
CEGR 4226 - Reinforced Concrete Design II (3)
CEGR 4247 - Sustainability (3)
CEGR 4278 - Geotechnical Engineering II (3)

Degree Total = 120 Credit Hours

Grade Requirements

A grade of C or above is required for select Major Courses, as noted above. Students must earn at least a 2.5 GPA in the selected Concentration 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

Freshmen

Freshman admission is competitive. Based upon an overall evaluation of high school record with particular emphasis on advanced courses in math and science and SAT or ACT scores, freshmen may be admitted directly to an engineering major or as engineering undecided.

- *Minimum GPA:* n/a
- *Pre-Major/Prerequisite Courses:* Freshmen MUST present a pre-calculus equivalent course, a math course during the high school senior year (grade 12/13) or math intensive science course such as physics or chemistry if no math courses are available, with no grades below C in any math courses. Students with AP test scores of at least 3 on AP Calculus AB or BC or early college high school students who present transfer credit for calculus equivalent to MATH 1241 or higher are exempted from having a math course in the senior year.
- *Other:* Minimum SAT-Math score of 570 or ACT-Math subscore of 23
- *Declaration of Major:* Students may declare the major at time of admission or at any time if in good standing with the College and University.

Transfers

All transfer students will be admitted to the lower division of a department, and evaluation of transfer credits follows the North Carolina articulation agreements. 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.

- *Minimum GPA:* 2.5 (3.0 for Mechanical Engineering)
- *Pre-Major/Prerequisite Courses:* Calculus I course (with grade of C or above) equivalent to MATH 1241
- *Transferable Credit Hours:* 24

Academic Progression Requirements

Freshman Year Requirements

All new freshmen, early college students, and transfer students with only one year 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 2.250 GPA in the first semester.
- Complete all non-elective courses in the Freshman year curriculum with grades of C or above.
- Pass all courses within three attempts, including withdrawing from a course with a grade of W.
- Complete the Freshman curriculum within three regular semesters, if starting in the required first semester mathematics course.
- Earn a 2.500 cumulative GPA upon completion of the Freshman curriculum.

Sophomore through Senior Year Requirements

- Maintain an overall GPA of 2.000 in the University.
- Maintain a major cumulative GPA of 2.000 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 two 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 reenroll 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. Readmission to the College of Engineering after a University suspension is not automatic. An application for readmission must be made by the student and approved by the College/department. Students who are readmitted 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.

Degree Requirements

General Education Courses (18-19 credit hours)

For details on required LBST, UWRT, and Social Sciences courses, refer to the General Education program. 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.

Foundation Courses (30 credit hours)

Required Foundation Courses (27 credit hours)

CHEM 1251 - General Chemistry I (3)*
CHEM 1251L - General Chemistry I Lab (1)*
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 and Engineering I (3)*
PHYS 2101L - Physics for Science and Engineering I Lab (1)*
STAT 3128 - Probability and Statistics for Engineers (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 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 (48 credit hours)

ENGR 1201 - Introduction to Engineering Practices and Principles I (2)*
ENGR 1202 - Introduction to Engineering Practices and Principles II (2)*
CEGR 2102 - Engineering Economic Analysis (3)*
CEGR 2103 - Surveying and Technical Drawing (3)*
CEGR 2154 - Design Project Lab (2) (0)*
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 Lab (2) (W)
CEGR 3155 - Environmental Lab (2) (W)
CEGR 3161 - Transportation Engineering I (3)*
CEGR 3201 - Systems and Design (3)
CEGR 3255 - Structural Materials I Lab (2) (W)*
CEGR 3258 - Geotechnical Lab (2) (W)
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 (24 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 4278 - Geotechnical Engineering II (3)*
CEGR 4264 - Landfill Design (3)*
CEGR 4270 - Earth Pressures and Retaining Structures (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:
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 (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 4144 - Advanced Ecology (4) (W)
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) (O,W)
CMET 4127 - Construction Law and Regulatory Issues (3)
FINN 3120 - Financial Management (3)

MKTG 3110 - Marketing Concepts (3)

Chemistry
CHEM 1252 - General Chemistry II (3)
CHEM 2000-4999

Computer Science
ITCS 3000-4999

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

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 - Energy and Environmental Economics (3)
ECON 3000 level or above course

Engineering
CEGR 3000-4999
ECGR 3000-4999
MEGR 3000-4999
SEGR 3000-4999

Geography
GEOG 2120 - Geographic Information Systems: Survey of Applications and Techniques (4)
GEOG 3100 - The City and Its Region (3)
GEOG 3115 - Urban Transportation Problems (3) (W)
GEOG 3150 - Manufacturing Geography (3)
GEOG 3200 - Land Use Planning (3)
GEOG 3210 - Regional Planning (3)
GEOG 3215 - Environmental Planning (3) (W)
GEOG 4155 - Retail Location (3)
GEOG 4160 - The Geography of Transportation Systems (3)
GEOG 3000-4999

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)
OPRS 3000-4999

Statistics
STAT 3000 level or above course

Concentration Requirements

Of the 120 required credit hours in the B.S.C.E. degree, students opting for this concentration must complete a minimum of 12 credit hours that satisfy the following requirements:

Concentration Courses (6 credit hours)
CEGR 3231 - Land Development Engineering Fundamentals (3)
CEGR 4185 - Geometric Design of Highways (3)

Concentration Elective Courses (6 credit hours)
Select two of the following:
CEGR 3233 - Land Development Engineering Studio (3)
CEGR 3235 - Land Development Engineering – Advanced Site Analysis (3)
CEGR 4147 - Stormwater Management (3)
CEGR 4247 - Sustainability (3)

Degree Total = 120 Credit Hours

Grade Requirements

A grade of C or above is required for select Major Courses, as noted above. Students must earn at least a 2.5 GPA in the selected Concentration 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

- 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 3.2 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 Department of Civil and Environmental Engineering 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
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree

Double-Counted Courses

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).

More Information

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

- Minimum high school GPA of 3.75 (on a 4.0 scale)
- Minimum score of 1220 on the new SAT
- Online application for graduate admission
- Note: Enrollment will be based on program capacity, and certain programs may have more stringent admission policies

Continued Enrollment 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.

Double-Counted Courses

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).

More Information

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 Computer Engineering and Physics Dual Degree
- B.S. in Electrical Engineering and 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 areas of electrical and computer engineering such as electronics, electromagnetics, communication systems and networks, control systems, machine learning, signal and image processing, computer hardware and software, power systems, digital systems, VLSI design, embedded systems, robotics, microelectronics, optoelectronics, nanotechnology, and biomedical engineering. ECE majors take 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. 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.

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
- Dual Degree: Computer Engineering and Physics

Students following the curricula for these programs can graduate in only one additional semester of coursework.

Accreditation

The B.S. Electrical Engineering and B.S. Computer Engineering programs 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 to 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 has a very structured curriculum. An eight-semester sequence of courses at more than a full-time load forms the core of the curriculum to develop the concepts and design and analysis techniques fundamental to the various areas of specialization. This program should be initiated early while at UNC Charlotte. Beginning the program late or after transferring from another institution will likely delay completion within 4 years.

Emphasis is placed on the utilization of computers throughout the curricula. Graduates have a wide range of job opportunities as power engineers, communication engineers, digital design engineers, test engineers, embedded system developers, network engineers, control engineers, project engineers, robotic system engineers, optoelectronic engineers, application engineers, analog engineers, medical product engineers, and process engineers.

Admission Requirements

Freshmen

Freshman admission is competitive. Based upon an overall evaluation of high school record with particular emphasis on advanced courses in math and science and SAT or ACT scores, freshmen may be admitted directly to an engineering major or as engineering undecided.

- *Minimum GPA:* n/a
- *Pre-Major/Prerequisite Courses:* Freshmen MUST present a pre-calculus equivalent course, a math course during the high school senior year (grade 12/13) or math intensive science course such as physics or chemistry if no math courses are available, with no grades below C in any math courses. Students with AP test scores of at least 3 on AP Calculus AB or BC or early college high school students who present transfer credit for calculus equivalent to MATH 1241 or higher are exempted from having a math course in the senior year.
- *Other:* Minimum SAT-Math score of 570 or ACT-Math subscore of 23
- *Declaration of Major:* Students may declare the major at time of admission or at any time if in good standing with the College and University.

Transfers

All transfer students will be admitted to the lower division of a department, and evaluation of transfer credits follows the North Carolina articulation agreements. 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.

- *Minimum GPA:* 2.5 (3.0 for Mechanical Engineering)
- *Pre-Major/Prerequisite Courses:* Calculus I course (with grade of C or above) equivalent to MATH 1241
- *Transferable Credit Hours:* 24

Academic Progression Requirements

Freshman Year Requirements

All new freshmen, early college students, and transfer students with only one year 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 2.250 GPA in the first semester.
- Complete all non-elective courses in the Freshman year curriculum with grades of C or above.
- Pass all courses within three attempts, including withdrawing from a course with a grade of W.
- Complete the Freshman curriculum within three regular semesters, if starting in the required first semester mathematics course.
- Earn a 2.500 cumulative GPA upon completion of the Freshman curriculum.

Sophomore through Senior Year Requirements

- Maintain an overall GPA of 2.000 in the University.
- Maintain a major cumulative GPA of 2.000 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 two 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 reenroll 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. Readmission to the College of

Engineering after a University suspension is not automatic. An application for readmission must be made by the student and approved by the College/department. Students who are readmitted 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.

Degree Requirements

General Education Courses (18-19 credit hours)

For details on required LBST and UWRT courses, refer to the General Education program. Students in this major should also plan on taking the following course that meets both general education and major requirements.

ECON 2101 - Principles of Economics – Macro (3)
or ECON 2102 - Principles of Economics – Micro (3)

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 (53 credit hours)

ECGR 2103 - Computer Utilization in C++ (3)
ECGR 2104 - Computer Engineering Programming II (3)
ECGR 2111 - Network Theory I (3)
ECGR 2112 - Network Theory II (3)
ECGR 2155 - Instrumentation and Networks Laboratory (1) (W)
ECGR 2156 - Logic and Networks Laboratory (1) (W)
ECGR 2181 - Logic Systems Design (3)
ECGR 2254 - Analytical Foundations of Electrical and Computer Engineering (3)
ECGR 3101 - Embedded Systems (3)
ECGR 3111 - Signals and Systems (3)
ECGR 3123 - Data Communications and Networking (3)
ECGR 3131 - Fundamentals of Electronics and Semiconductors (3)
ECGR 3155 - Systems and Electronics Laboratory (1) (W)
ECGR 3157 - ECE Junior Design (3) (O)
ECGR 3159 - Professional Practice (1)
ECGR 3180 - Data Structures and Algorithms in C++ (3)
ECGR 3183 - Computer Organization (3)
ECGR 4124 - Digital Signal Processing (3)
ECGR 4251 - Computer Engineering Senior Design I (2) (O,W)
ECGR 4252 - Computer Engineering Senior Design II (2) (O,W)
ECGR 4433 - VLSI Systems Design (3)

Related Courses (20 credit hours)

ENGR 3295 - Multidisciplinary Professional Development (1)
MATH 1165 - Introduction to Discrete Structures (3)
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 2102L - Physics for Science and Engineering I Lab (1)
STAT 3128 - Probability and Statistics for Engineers (3)

Technical Elective Courses (15 credit hours)

1) Select three ECGR 4000-level courses that are not required as part of the curriculum.

2) The remaining two technical elective courses 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

Degree Total = 120 Credit Hours

Grade Requirements

A GPA in the major and overall GPA of 2.0 or above is required.

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

Freshmen

Freshman admission is competitive. Based upon an overall evaluation of high school record with particular emphasis on advanced courses in math and science and SAT or ACT scores, freshmen may be admitted directly to an engineering major or as engineering undecided.

- *Minimum GPA:* n/a
- *Pre-Major/Prerequisite Courses:* Freshmen MUST present a pre-calculus equivalent course, a math course during the high school senior year (grade 12/13) or math intensive science course such as physics or chemistry if no math courses are available, with no grades below C in any math courses. Students with AP test scores of at least 3 on AP Calculus AB or BC or early college high school students who present transfer credit for calculus equivalent to MATH 1241 or higher are exempted from having a math course in the senior year.
- *Other:* Minimum SAT-Math score of 570 or ACT-Math subscore of 23
- *Declaration of Major:* Students may declare the major at time of admission or at any time if in good standing with the College and University.

Transfers

All transfer students will be admitted to the lower division of a department, and evaluation of transfer credits follows the North Carolina articulation agreements. 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.

- *Minimum GPA:* 2.5 (3.0 for Mechanical Engineering)
- *Pre-Major/Prerequisite Courses:* Calculus I course (with grade of C or above) equivalent to MATH 1241
- *Transferable Credit Hours:* 24

Academic Progression Requirements

Freshman Year Requirements

All new freshmen, early college students, and transfer students with only one year 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 2.250 GPA in the first semester.
- Complete all non-elective courses in the Freshman year curriculum with grades of C or above.
- Pass all courses within three attempts, including withdrawing from a course with a grade of W.
- Complete the Freshman curriculum within three regular semesters, if starting in the required first semester mathematics course.
- Earn a 2.500 cumulative GPA upon completion of the Freshman curriculum.

Sophomore through Senior Year Requirements

- Maintain an overall GPA of 2.000 in the University.
- Maintain a major cumulative GPA of 2.000 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 two 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 reenroll 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. Readmission to the College of Engineering after a University suspension is not automatic. An application for readmission must be made by the student and approved by the College/department. Students who are readmitted 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.

Degree Requirements

General Education Courses (18-19 credit hours)

For details on required LBST and UWRT courses, refer to the General Education Program. Students in this major should also plan on taking the following course that meets both general education and major requirements.

ECON 2101 - Principles of Economics - Macro (3)
or ECON 2102 - Principles of Economics - Micro (3)

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 Laboratory (1)

Major Courses (53 credit hours)

ECGR 2103 - Computer Utilization in C++ (3)
ECGR 2104 - Computer Engineering Programming II (3)
ECGR 2111 - Network Theory I (3)
ECGR 2112 - Network Theory II (3)
ECGR 2155 - Instrumentation and Networks Laboratory (1) (W)

ECGR 2156 - Logic and Networks Laboratory (1) (W)
ECGR 2161 - Basic Electrical Engineering I (3)
ECGR 2254 - Analytical Foundations of Electrical and Computer Engineering (3)
ECGR 3101 - Embedded Systems (3)
ECGR 3111 - Signals and Systems (3)
ECGR 3123 - Data Communications and Networking (3)
ECGR 3131 - Fundamentals of Electronics and Semiconductors (3)
ECGR 3155 - Systems and Electronics Laboratory (1) (W)
ECGR 3157 - ECE Junior Design (3) (O)
ECGR 3159 - Professional Practice (1)
ECGR 3180 - Data Structures and Algorithms in C++ (3)
ECGR 3183 - Computer Organization (3)
ECGR 4124 - Digital Signal Processing (3)
ECGR 4251 - Computer Engineering Senior Design I (2) (O,W)
ECGR 4252 - Computer Engineering Senior Design II (2) (O,W)
ECGR 4433 - VLSI Systems Design (3)

Concentration Courses (9 credit hours)
Concentration Required Course (3 credit hours)
ECGR 4105 - Introduction to Machine Learning (3)

Concentration Elective Courses (6 credit hours)
Select two of the following:
ECGR 4106 - Real-Time Machine Learning (3)
ECGR 4115 - Convex Optimization and AI Applications (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 (20 credit hours)
ENGR 3295 - Multidisciplinary Professional Development (1)
MATH 1165 - Introduction to Discrete Structures (3)
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 2102L - Physics for Science and Engineering II Laboratory (1)
STAT 3128 - Probability and Statistics for Engineers (3)

Technical Elective Courses (6 credit hours)
Select two technical elective courses 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

Degree Total = 120 Credit Hours

Grade Requirements
All non-elective Freshman year courses must be completed with C or above prior to enrolling in any Junior level courses. In order to remain in the concentration, students must maintain a minimum (overall and program) GPA of 2.5. A GPA in the major and overall GPA of 2.5 or above is also required to graduate.

Bachelor of Science in Physics and Bachelor of Science in Computer Engineering Dual Degree
The Department of Physics and Optical Science offers two dual degree opportunities with the Department of Electrical and Computer Engineering. These dual degrees are designed to broaden and enhance the education of students in engineering degree programs. Students can obtain a B.S. Physics and B.S. Electrical Engineering dual degree or a B.S. Physics and B.S. Computer Engineering dual degree.

Admission Requirements
Freshmen and Transfers
- *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
    - MATH 2241
- *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 Computer Engineering and Physics, undergraduate students must complete all requirements for the B.S.Cp.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.Cp.E.; the B.S. in Physics degree will not be awarded in advance of the engineering degree.

Students in this dual degree program are not required to fulfill the College of Liberal Arts & Sciences foreign language requirement (see the College of Liberal Arts & Sciences section of this Catalog for additional information).

General Education Courses (18-19 credit hours)
For details on required LBST and UWRT courses, refer to the General Education program. Students in this major should plan on taking the following course that meets both general education and major requirements.

ECON 2101 - Principles of Economics – Macro (3)
or ECON 2102 - Principles of Economics – Micro (3)

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 (53 credit hours)
ECGR 2103 - Computer Utilization in C++ (3)
ECGR 2104 - Computer Engineering Programming II (3)
ECGR 2111 - Network Theory I (3)
ECGR 2112 - Network Theory II (3)
ECGR 2155 - Instrumentation and Networks Laboratory (1) (W)
ECGR 2156 - Logic and Networks Laboratory (1) (W)
ECGR 2181 - Logic Systems Design (3)
ECGR 2254 - Analytical Foundations of Electrical and Computer Engineering (3)
ECGR 3101 - Embedded Systems (3)
ECGR 3111 - Signals and Systems (3)
ECGR 3123 - Data Communications and Networking (3)
ECGR 3131 - Fundamentals of Electronics and Semiconductors (3)
ECGR 3155 - Systems and Electronics Laboratory (1) (W)
ECGR 3157 - ECE Junior Design (3) (O)
ECGR 3159 - Professional Practice (1)
ECGR 3180 - Data Structures and Algorithms in C++ (3)
ECGR 3183 - Computer Organization (3)
ECGR 4124 - Digital Signal Processing (3)
ECGR 4251 - Computer Engineering Senior Design I (2) (O,W)
ECGR 4252 - Computer Engineering Senior Design II (2) (O,W)
ECGR 4433 - VLSI Systems Design (3)

Related Courses (20 credit hours)
ENGR 3295 - Multidisciplinary Professional Development (1)
MATH 1165 - Introduction to Discrete Structures (3)
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 2102L - Physics for Science and Engineering I Lab (1)
STAT 3128 - Probability and Statistics for Engineers (3)

Technical Elective Courses (15 credit hours)
1) Select three ECGR 4000-level courses that are not required as part of the B.S.Cp.E. curriculum.

2) The remaining two technical elective courses may be chosen from any of the following that are not part of the B.S.Cp.E. degree requirements. 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)
PHYS 3121 - Classical Mechanics I (3)
PHYS 3141 - Introduction to Modern Physics (3)
PHYS 4231 - Electromagnetic Theory I (3)
PHYS 4241 - Quantum Mechanics I (3)

Degree Total = 129-132 credit hours

Grade Requirements
A GPA of 2.0 or above in PHYS and engineering courses and an overall GPA of 2.0 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 Computer Engineering
The Department of Electrical and Computer Engineering offers a Minor in Computer Engineering for non-majors.

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 15 additional credit hours and requires the following:

Required Courses (12 credit hours)
ECGR 2104 - Computer Engineering Programming II (3)
ECGR 2181 - Logic System Design I (3)
ECGR 3101 - Embedded Systems (3)
ECGR 3183 - Computer Organization (3)

Elective Course (3 credit hours)
Select at least one of the following
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 - Real-Time Machine Learning (3)
ECGR 4146 - Introduction to VHDL (3)
ECGR 4161 - Introduction to Robotics (3)
ECGR 4181 - Computer Architecture (3)

Minor Total = 15 Credit Hours

Grade Requirements
Students must achieve a minimum GPA of 2.0 in all of these courses, and 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

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 3.2 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

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
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree

Double-Counted Courses

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).

More Information

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 has a very structured curriculum. An eight-semester sequence of courses at more than a full-time load forms the core of the curriculum to develop the concepts and design and analysis techniques fundamental to the various areas of specialization. This program should be initiated early while at UNC Charlotte. Beginning the program late or after transferring from another institution will likely delay completion within 4 years.

Emphasis is placed on the utilization of computers throughout the curricula. Graduates have a wide range of job opportunities as power engineers, communication engineers, digital design engineers, test engineers, embedded system developers, network engineers, control engineers, project engineers, robotic system engineers, optoelectronic engineers, application engineers, analog engineers, medical product engineers, and process engineers.

Admission Requirements

Freshmen

Freshman admission is competitive. Based upon an overall evaluation of high school record with particular emphasis on advanced courses in math and science and SAT or ACT scores, freshmen may be admitted directly to an engineering major or as engineering undecided.

- *Minimum GPA:* n/a
- *Pre-Major/Prerequisite Courses:* Freshmen MUST present a pre-calculus equivalent course, a math course during the high school senior year (grade 12/13) or math intensive science course such as physics or chemistry if no math courses are available, with no grades below C in any math courses. Students with AP test scores of at least 3 on AP Calculus AB or BC or early college high school students who present transfer credit for calculus equivalent to MATH 1241 or higher are exempted from having a math course in the senior year.
- *Other:* Minimum SAT-Math score of 570 or ACT-Math subscore of 23
- *Declaration of Major:* Students may declare the major at time of admission or at any time if in good standing with the College and University.

Transfers

All transfer students will be admitted to the lower division of a department, and evaluation of transfer credits follows the North Carolina articulation agreements. 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.

- *Minimum GPA:* 2.5 (3.0 for Mechanical Engineering)
- *Pre-Major/Prerequisite Courses:* Calculus I course (with grade of C or above) equivalent to MATH 1241
- *Transferable Credit Hours:* 24

Academic Progression Requirements

Freshman Year Requirements

All new freshmen, early college students, and transfer students with only one year 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 2.250 GPA in the first semester.
- Complete all non-elective courses in the Freshman year curriculum with grades of C or above.
- Pass all courses within three attempts, including withdrawing from a course with a grade of W.

- Complete the Freshman curriculum within three regular semesters, if starting in the required first semester mathematics course.
- Earn a 2.500 cumulative GPA upon completion of the Freshman curriculum.

Sophomore through Senior Year Requirements
- Maintain an overall GPA of 2.000 in the University.
- Maintain a major cumulative GPA of 2.000 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 two 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 reenroll 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. Readmission to the College of Engineering after a University suspension is not automatic. An application for readmission must be made by the student and approved by the College/department. Students who are readmitted 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.

Degree Requirements

General Education Courses (18-19 credit hours)

For details on required LBST and UWRT courses, refer to the General Education program. The liberal studies electives must be chosen to satisfy the University General Education Requirements and to meet the objectives of a broad education consistent with the educational goals of the profession. Students in this major should also plan on taking the following course that meets both general education and major requirements.

ECON 2101 - Principles of Economics – Macro (3)
or ECON 2102 - Principles of Economics – Micro (3)

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) (W) *
ECGR 2156 - Logic and Networks Laboratory (1) (W) *
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) (W) *
ECGR 3156 - Electromagnetic and Electronic Devices Laboratory (1) (W) *
ECGR 3157 - ECE Junior Design (3) (O)
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) (O,W)
ECGR 4242 - Electrical Engineering Senior Design II (2) (O,W)

**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 curriculum.

Elective Courses (6 credit hours)
Select two courses from the following that are 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

Degree Total = 120 Credit Hours

Grade Requirements
A GPA in the major and overall GPA of 2.0 or above is required.

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
Freshmen
Freshman admission is competitive. Based upon an overall evaluation of high school record with particular emphasis on advanced courses in math and science and SAT or ACT scores, freshmen may be admitted directly to an engineering major or as engineering undecided.

- *Minimum GPA:* n/a
- *Pre-Major/Prerequisite Courses:* Freshmen MUST present a pre-calculus equivalent course, a math course during the high school senior year (grade 12/13) or math intensive science course such as physics or chemistry if no math courses are available, with no grades below C in any math courses. Students with AP test scores of at least 3 on AP Calculus AB or BC or early college high school students who present transfer credit for calculus equivalent to MATH 1241 or higher are exempted from having a math course in the senior year.
- *Other:* Minimum SAT-Math score of 570 or ACT-Math subscore of 23
- *Declaration of Major:* Students may declare the major at time of admission or at any time if in good standing with the College and University.

Transfers
All transfer students will be admitted to the lower division of a department, and evaluation of transfer credits follows the North Carolina articulation agreements. 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.

- *Minimum GPA:* 2.5 (3.0 for Mechanical Engineering)
- *Pre-Major/Prerequisite Courses:* Calculus I course (with grade of C or above) equivalent to MATH 1241
- *Transferable Credit Hours:* 24

Academic Progression Requirements
Freshman Year Requirements
All new freshmen, early college students, and transfer students with only one year 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 2.250 GPA in the first semester.
- Complete all non-elective courses in the Freshman year curriculum with grades of C or above.
- Pass all courses within three attempts, including withdrawing from a course with a grade of W.
- Complete the Freshman curriculum within three regular semesters, if starting in the required first semester mathematics course.
- Earn a 2.500 cumulative GPA upon completion of the Freshman curriculum.

Sophomore through Senior Year Requirements
- Maintain an overall GPA of 2.000 in the University.
- Maintain a major cumulative GPA of 2.000 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 two 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 reenroll 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. Readmission to the College of Engineering after a University suspension is not automatic. An application for readmission must be made by the student and approved by the College/department. Students who are readmitted 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.

Degree Requirements

General Education Courses (18-19 credit hours)

For details on required LBST and UWRT courses, refer to the General Education Program. The liberal studies electives must be chosen to satisfy the University General Education Requirements and to meet the objectives of a broad education consistent with the educational goals of the profession. Students in this major should also plan on taking one of the following courses that meets both general education and major requirements.

ECON 2101 - Principles of Economics - Macro (3)
or ECON 2102 - Principles of Economics - Micro (3)

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 Laboratory (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) (W) *
ECGR 2156 - Logic and Networks Laboratory (1) (W) *
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) (W) *
ECGR 3156 - Electromagnetic and Electronic Devices Laboratory (1) (W)*
ECGR 3157 - ECE Junior Design (3) (O)
ECGR 4241 - Electrical Engineering Senior Design I (2) (O,W)
ECGR 4242 - Electrical Engineering Senior Design II (2) (O,W)
ECGR 4123 - Analog and Digital Communication (3)|
or ECGR 4124 - Digital Signal Processing (3)

** 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)

Concentration Courses (9 credit hours)

Concentration Required Course (3 credit hours)

ECGR 4105 - Introduction to Machine Learning (3)

Concentration Elective Courses (6 credit hours)

Select two of the following:
ECGR 4106 - Real-Time Machine Learning (3)
ECGR 4115 - Convex Optimization and AI Applications (3)
ECGR 4127 - Machine Learning for the Internet of Things (3)
ECGR 4090 - Special Topics in Electrical Engineering (1 to 4) *(requires department approval)*

Restricted Elective Courses (9 credit hours)

Technical Elective Course (3 credit hours)

Select one ECGR 4000-level course that is not required as part of the curriculum.

Elective Courses (6 credit hours)

Select two courses from the following that are not already required in the curriculum:
CEGR 3000-level courses
CEGR 4000-level courses
ECGR 3000-level courses
ECGR 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

Degree Total = 120 Credit Hours

Grade Requirements

All non-elective Freshman year courses must be completed with C or above prior to enrolling in any Junior level courses. In order to remain in the concentration, students must maintain a minimum (overall and program) GPA of 2.5. A GPA in the major and overall GPA of 2.5 or above is also required to graduate.

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

Freshmen

Freshman admission is competitive. Based upon an overall evaluation of high school record with particular emphasis on advanced courses in math and science and SAT or ACT scores, freshmen may be admitted directly to an engineering major or as engineering undecided.

- *Minimum GPA:* n/a
- *Pre-Major/Prerequisite Courses:* Freshmen MUST present a pre-calculus equivalent course, a math course during the high school senior year (grade 12/13) or math intensive science course such as physics or chemistry if no math courses are available, with no grades below C in any math courses. Students with AP test scores of at least 3 on AP Calculus AB or BC or early college high school students who present transfer credit for calculus equivalent to MATH 1241 or higher are exempted from having a math course in the senior year.
- *Other:* Minimum SAT-Math score of 570 or ACT-Math subscore of 23
- *Declaration of Major:* Students may declare the major at time of admission or at any time if in good standing with the College and University.

Transfers

All transfer students will be admitted to the lower division of a department, and evaluation of transfer credits follows the North Carolina articulation agreements. 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.

- *Minimum GPA:* 2.5 (3.0 for Mechanical Engineering)
- *Pre-Major/Prerequisite Courses:* Calculus I course (with grade of C or above) equivalent to MATH 1241
- *Transferable Credit Hours:* 24

Academic Progression Requirements

Freshman Year Requirements

All new freshmen, early college students, and transfer students with only one year 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 2.250 GPA in the first semester.
- Complete all non-elective courses in the Freshman year curriculum with grades of C or above.
- Pass all courses within three attempts, including withdrawing from a course with a grade of W.
- Complete the Freshman curriculum within three regular semesters, if starting in the required first semester mathematics course.
- Earn a 2.500 cumulative GPA upon completion of the Freshman curriculum.

Sophomore through Senior Year Requirements

- Maintain an overall GPA of 2.000 in the University.
- Maintain a major cumulative GPA of 2.000 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 two 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 reenroll 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. Readmission to the College of Engineering after a University suspension is not automatic. An application for readmission must be made by the student and approved by the College/department. Students who are readmitted 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.

Additional Admission Requirements

Students must apply for admission and may enter the Concentration in Power and Energy Systems program during their Junior year only. To be admitted to the program, students must have completed the courses

listed below. Additionally, an overall GPA of 3.0 is required for admission into the Concentration in Power and Energy Systems.

ECGR 2112 - Network Theory II (3)
MATH 1241 - Calculus I (3)
MATH 1242 - Calculus II (3)
MATH 2164 - Matrices and Linear Algebra (3)
MATH 2241 - Calculus III (3)
PHYS 2102 - Physics for Science and Engineering II (3)

Degree Requirements

General Education Courses (18-19 credit hours)
For details on required LBST and UWRT courses, refer to the General Education program. The liberal studies electives must be chosen to satisfy the University General Education Requirements and to meet the objectives of a broad education consistent with the educational goals of the profession. Students in this major should also plan on taking one of the following courses that meets both general education and major requirements.

ECON 2101 - Principles of Economics – Macro (3)
or ECON 2102 - Principles of Economics – Micro (3)

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) (W) *
ECGR 2156 - Logic and Networks Laboratory (1) (W) *
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) (W) *
ECGR 3156 - Electromagnetic and Electronic Devices Laboratory (1) (W) *
ECGR 3157 - ECE Junior Design (3) (O)
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) (O,W)
ECGR 4242 - Electrical Engineering Senior Design II (2) (O,W)

**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)

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 4104 - Computational Methods in Power Systems (3)
ECGR 4113 - Modeling and Analysis of Dynamic Systems (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 4151 - Solar Cell Fundamentals and Technology (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)

Restricted Elective Courses (9 credit hours)
Technical Elective Course (3 credit hours)
Select one ECGR 4000-level courses that is not already required in the curriculum.

Elective Courses (6 credit hours)
Select two courses from the following that are not already required in the curriculum:

CEGR 3000-level courses
CEGR 4000-level courses
ECGR 3000-level courses
ECGR 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

Degree Total = 120 Credit Hours

Grade Requirements

All non-elective Freshman year courses must be completed with C or above prior to enrolling in any Junior level courses. In order to remain in the concentration, students must maintain a minimum (overall and program) GPA of 3.0. A GPA in the major and overall GPA of 3.0 or above

is also required to graduate.

Bachelor of Science in Electrical Engineering and Bachelor of Science in Physics Dual Degree

The Department of Physics and Optical Science offers two dual degree opportunities with the Department of Electrical and Computer Engineering. These dual degrees are designed to broaden and enhance the education of students in engineering degree programs. Students can obtain a B.S. Physics and B.S. Electrical Engineering dual degree or a B.S. Physics and B.S. Computer Engineering dual degree.

Admission Requirements

Freshmen and Transfers

- *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
    - MATH 2241
- *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.

Students in this dual degree program are not required to fulfill the College of Liberal Arts & Sciences foreign language requirement (see the College of Liberal Arts & Sciences section of this Catalog for additional information).

General Education Courses (18-19 credit hours)

For details on required LBST and UWRT courses, refer to the General Education program. The liberal studies electives must be chosen to satisfy the University General Education Requirements and to meet the objectives of a broad education consistent with the educational goals of the profession. Students in this major should also plan on taking the following course that meets both general education and major requirements.

ECON 2101 - Principles of Economics – Macro (3)
or ECON 2102 - Principles of Economics – Micro (3)

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) (W)*
ECGR 2156 - Logic and Networks Laboratory (1) (W)*
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) (W)*
ECGR 3156 - Electromagnetic and Electronic Devices Laboratory (1) (W)*
ECGR 3157 - ECE Junior Design (3) (O)
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) (O,W)
ECGR 4242 - Electrical Engineering Senior Design II (2) (O,W)

**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 (6 credit hours)
PHYS 3121 - Classical Mechanics I (3)
PHYS 4241 - Quantum Mechanics I (3)

Elective Physics Courses (6 credit hours)
Select two of the following:
PHYS 3160 - Stellar Astrophysics (3)
PHYS 3220 - Mathematical Methods in Physics (3)
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)

Degree Total = 129-132 credit hours

Grade Requirements
A GPA of 2.0 or above in PHYS and engineering courses and an overall GPA of 2.0 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 for non-majors.

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)
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 3121 - Introduction to Electromagnetic Fields (3)
ECGR 3131 - 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

Grade Requirements
Students must achieve a minimum GPA of 2.0 in all of these courses, and this minor is not available for a student who has a major in either Electrical Engineering or 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.

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
- 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 3.2 GPA in the major
- Acceptable scores on the appropriate graduate standardized test (e.g., GRE) *(Students with a 3.5 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

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

- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree

Double-Counted Courses

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).

More Information

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 and Construction Management

et.charlotte.edu

Undergraduate Programs

- 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 Electrical Engineering Technology
  - Applied Energy
  - Electromechanical Systems
- 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 Construction and Facilities Engineering
- Early Entry: M.S. in Fire Protection and Safety Management

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.

Degree Programs

The Department of Engineering Technology and Construction Management offers curricula leading to the Bachelor of Science in Construction Management (BSCM) and the Bachelor of Science in Engineering Technology (BSET) degrees. In addition to the BSCM, four disciplines of study are available in Engineering Technology: Civil Engineering Technology, Electrical Engineering Technology, Fire and Safety Engineering Technology, and Mechanical Engineering Technology.

Students may enroll in the programs in several ways: 1) as freshmen; 2) as transfers without an approved Associate of Applied Science (A.A.S.) degree in engineering technology, construction management, or fire protection; or 3) as upper-division 2+2 transfers after completing a two-year A.A.S. degree in a relevant engineering technology, construction management, or fire protection 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 B.S. degree in Construction Management (BSCM) or Engineering Technology (BSET) 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.

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.

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.

Electrical Engineering Technology

Electrical Engineering Technology (ELET) graduates find employment in many sectors of the economy. Almost any aspect of communications, electronic instrumentation, computer applications, computer networking, electric power generation and distribution, or consumer electronics has a need for graduates with understanding of the applications of electrical/electronic technology. For example: systems administrator for networked computer systems, systems design for a telecommunications company, avionics control systems for aircraft programs, and applications design for HVAC and building power-control systems.

Fire and Safety Engineering Technology

Fire and Safety Engineering Technology (FRST) 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 FRST 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.

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 Construction Management and 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:

ASAC of ABET Criterion 3 a through k 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.

Additional Programs and Opportunities

Distance Education

In addition to the on-campus programs, the upper division of the BSET programs in Electrical Engineering Technology and Fire and Safety Engineering Technology (Fire Safety concentration) are offered online to part-time students. This allows students who already hold an approved AAS degree to complete their Junior and Senior years of the BSET program at a distance. Students are required to come to the campus only for ELET laboratories. The ELET laboratories are currently offered on a schedule of Saturdays during the summer school sessions. Estimated completion time for the distance delivery of the Junior and Senior years is approximately four years, including summers, since students generally take two courses per semester.

Construction Management

Bachelor of Science in Construction Management (BSCM)

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, infrastructure, 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 program is further enhanced by a business / management core which includes courses in statistics, computer applications, economics, accounting, engineering economics, business management, business law, finance, and construction law.

The Construction Management program shares a common lower division (Freshman and Sophomore year) curriculum with the Civil Engineering Technology (CIET) Program, providing students with a two-year window for exploration to determine which degree, the B.S. in Civil Engineering Technology or B.S. in Construction Management, is their desired academic objective.

Admission Requirements

Students for this degree may enter degree programs in the Department of Engineering Technology and Construction Management as freshmen or as transfer students.

Freshman Admission
Applicants entering as Freshmen must meet the general University admission requirements.

Transfer Admission
Transfer admission into the department occurs in one of two situations:

1) Transfer applicants not having 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:
   a) 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, Computer, Controls, Design and Drafting, Electrical, Electronics, Environmental, Fire Protection, Fire Science, Industrial, Instrumentation, Manufacturing, Mechanical, Optics, Robotics, Surveying or similar title with curriculum acceptable to the department. A minimum GPA of 2.5 (out of 4.0) in the AAS degree is required.
   b) Have completed satisfactorily the prerequisite background courses for the option they plan to enter (missing background courses may be taken at UNC Charlotte).

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 making application for the program. For more information, contact the College of Engineering Office of Student Development and Success or the University Career Center.

Course Requirements
Course requirements correspond to the mode of admission for each student as outlined hereafter.

- **Entering Freshmen:** Students admitted as Freshmen 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 that they were admitted into 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)
- 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)
  - Macroeconomics
  - 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.

Academic Progression Requirements
Freshman Year Requirements
All new freshmen, including early college and dual enrolled students that have college credit prior to high school graduation, 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.
- Pass all courses within three attempts, including withdrawing from

a course with a grade of W.
- Earn a 2.00 cumulative GPA upon completion of the Freshman curriculum.

Sophomore through Senior Year Requirements
- Maintain an overall GPA of 2.000 in the University.
- Maintain a major cumulative GPA of 2.000 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 a course in their 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 reenroll 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. Readmission to the College of Engineering after a University suspension is not automatic. An application for readmission must be made by the student and approved by the College/department. Students who are readmitted 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.

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 (15 credit hours)

For details on required LBST and UWRT courses, refer to the General Education program. The required Social Science course is satisfied through ECON 2101 as noted in the Business and Management Foundation Courses section below.

Mathematics and Science Foundation Courses (22 credit hours)

Required Mathematics/Science Courses

ETGR 2272 - Engineering Analysis II (3)
MATH 1103 - Precalculus Mathematics for Science and Engineering (3)*
MATH 1121 - Calculus for Engineering Technology (3)*
or ETGR 2171 - Engineering Analysis I (3)*
PHYS 1101 - Introductory Physics I (3)*
PHYS 1101L - Introductory Physics I Laboratory (1)*
PHYS 1102 - Introductory Physics II (3)
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)
GEOG 2120 - Geographic Information Systems: Survey of Applications and Techniques (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)
or CMET 4127 - Construction Law and Regulatory Issues (3)
ECON 2101 - Principles of Economics–Macro (3)

Major Courses (65 credit hours)

CMET 1680 - Professional Development I: Construction Safety (1) *
CMET 2135 - Building Information Modeling (BIM) (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) (W)
CMET 4272 - Capstone Project (3) (O,W)
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 2105 - Plan Reading and Quantity Takeoff (3)
ETCE 2163L - Construction Materials and Structures Lab (1)
ETCE 2221 - Construction Means and Methods (3)
ETCE 2410 - Introduction to Environmental Engineering Technology (3)
ETCE 3131 - Soil Mechanics and Earthwork (3)
ETCE 3131L - Soil Testing Laboratory (1) (W)
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.*

Restricted Elective Courses (9 credit hours)

Select three of the following from departmental and non-departmental courses:

Departmental Courses

Two to three courses may be selected from the following:
ETGR 2106 - Electronic Circuits and Devices (3)
ETGR 3171 - Engineering Analysis III (3)
ETGR 3272 - Applied Numerical Methods (3)

ETGR 4272 - Engineering Analysis IV (3)
CMET 4073 - Special Topics - Construction Management (1 to 4)
CMET 4135 - Building Information Modeling (3)
CMET 4150 - Green Building (3)
CMET 4290 - Temporary Structures in Construction (3)
ELET 2241 - Instrumentation and Controls (3)
ETCE 3242 - Hydraulics and Hydrology (3)
ETCE 3242L - Hydraulics Laboratory (1)
ETCE 3264 - Structural Analysis (3)
ETCE 4073 - Special Topics - Civil Engineering Technology (1 to 4)
ETCE 4165 - Structural Steel Design (3)
ETCE 4251 - Highway Design and Construction (3) (W)
ETCE 4251L - Asphalt Mixtures Laboratory (1)
ETCE 4266 - Reinforced Concrete Design (3)
ETCE 4344 - Applied Hydrology and Storm Water Management (3)
ETME 3113 - Dynamics (3)
ETME 3143 - Thermodynamics (3)

Non-Departmental Courses
A maximum of one course may be selected from the following:
GEOG 3115 - Urban Transportation Problems (3) (W)
GEOG 3120 - Fundamentals of Geographic Information Systems (4)
GEOG 3200 - Land Use Planning (3)
GEOG 3210 - Regional Planning (3)
GEOG 3215 - Environmental Planning (3) (W)
GEOG 4040 - Transportation Topics (3)
GEOL 3190 - Environmental Geology (3)
GEOL 4145 - Hydrogeology (4)
CHEM 1252 - General Chemistry II (3)

Degree Total = 120 Credit Hours

Degree Requirements (2+2-Year Program)

The Bachelor of Science in Construction Management (BSCM) 2+2-year degree program consists of 120 credit hours which may include up to 60 credit hours of approved courses from an approved A.A.S. degree.

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 (9 credit hours)
Students must take three courses from the LBST 2XXX series. For further details on required LBST courses, refer to the General Education Program.

Elective Mathematics/Science Course (3 credit hours)
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)
GEOG 2120 - Geographic Information Systems: Survey of Applications and Techniques (4)
MATH 2164 - Matrices and Linear Algebra (3)
MATH 2342 - Data Analysis and Probability (3)

Business and Management Foundation Courses (6 credit hours)
ACCT 2121 - Principles of Accounting I (3)
BLAW 3150 - Business Law I (3)
or CMET 4127 - Construction Law and Regulatory Issues (3)

Major Courses (33 credit hours)
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) (W)
CMET 4272 - Capstone Project (3) (W,O)
ETCE 3131 - Soil Mechanics and Earthwork (3)
ETCE 3131L - Soil Testing Laboratory (1) (W)
ETCE 3163 - Structural Analysis and Design I (3)
ETCE 3271 - Building Systems (3)
ETCE 4350 - Construction Geotechnics and Foundations (3)
ETGR 3222 - Engineering Economics (3)
ETGR 3295 - Multidisciplinary Professional Development (1)

Restricted Elective Courses (9 credit hours)
Select three of the following from departmental and non-departmental courses:

Departmental Courses
Two to three courses may be selected from the following:
ETGR 2106 - Electronic Circuits and Devices (3)
ETGR 3171 - Engineering Analysis III (3)
ETGR 3272 - Applied Numerical Methods (3)
ETGR 4272 - Engineering Analysis IV (3)
CMET 4073 - Special Topics - Construction Management (1 to 4)
CMET 4135 - Building Information Modeling (3)
CMET 4150 - Green Building (3)
CMET 4290 - Temporary Structures in Construction (3)
ELET 2241 - Instrumentation and Controls (3)
ETCE 3242 - Hydraulics and Hydrology (3)
ETCE 3242L - Hydraulics Laboratory (1)
ETCE 3264 - Structural Analysis (3)
ETCE 4073 - Special Topics - Civil Engineering Technology (1 to 4)
ETCE 4165 - Structural Steel Design (3)
ETCE 4251 - Highway Design and Construction (3) (W)
ETCE 4251L - Asphalt Mixtures Laboratory (1)
ETCE 4266 - Reinforced Concrete Design (3)
ETCE 4344 - Applied Hydrology and Storm Water Management (3)
ETME 3113 - Dynamics (3)
ETME 3143 - Thermodynamics (3)

Non-Departmental Courses
A maximum of one course may be selected from the following:
GEOG 3115 - Urban Transportation Problems (3) (W)
GEOG 3120 - Fundamentals of Geographic Information Systems (4)
GEOG 3200 - Land Use Planning (3)
GEOG 3210 - Regional Planning (3)
GEOG 3215 - Environmental Planning (3) (W)
GEOG 4040 - Transportation Topics (3)
GEOL 3190 - Environmental Geology (3)
GEOL 4145 - Hydrogeology (4)
CHEM 1252 - General Chemistry II (3)

Degree Total = 120 Credit Hours

Grade Requirements
The following course(s) must be completed with a grade of C or above: ACCT 2121.

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.

Admission Requirements
Students for this degree may enter degree programs in the Department of Engineering Technology and Construction Management as freshmen or as transfer students.

Freshman Admission
Applicants entering as Freshmen must meet the general University admission requirements.

Transfer Admission
Transfer admission into the department occurs in one of two situations:

1) Transfer applicants not having 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:
   a) 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, Computer, Controls, Design and Drafting, Electrical, Electronics, Environmental, Fire Protection, Fire Science, Industrial, Instrumentation, Manufacturing, Mechanical, Optics, Robotics, Surveying or similar title with curriculum acceptable to the department. A minimum GPA of 2.5 (out of 4.0) in the AAS degree is required.
   b) Have completed satisfactorily the prerequisite background courses for the option they plan to enter (missing background courses may be taken at UNC Charlotte).

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 making application for the program. For more information, contact the College of Engineering Office of Student Development and Success or the University Career Center.

Course Requirements
Course requirements correspond to the mode of admission for each student as outlined hereafter.

- **Entering Freshmen:** Students admitted as Freshmen 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 that they were admitted into 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)
- 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)
  - Macroeconomics
  - 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.

Academic Progression Requirements

Freshman Year Requirements

All new freshmen, including early college and dual enrolled students that have college credit prior to high school graduation, 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.
- Pass all courses within three attempts, including withdrawing from a course with a grade of W.
- Earn a 2.00 cumulative GPA upon completion of the Freshman curriculum.

Sophomore through Senior Year Requirements

- Maintain an overall GPA of 2.000 in the University.
- Maintain a major cumulative GPA of 2.000 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 a course in their 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 reenroll 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. Readmission to the College of Engineering after a University suspension is not automatic. An application for readmission must be made by the student and approved by the College/department. Students who are readmitted 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.

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 (15 credit hours)

For details on required LBST and UWRT courses, refer to the General Education program. The required Social Science course is satisfied through ECON 2101 as noted in the Business and Management Foundation Courses section below.

Mathematics and Science Foundation Courses (22 credit hours)

Required Mathematics/Science Courses

ETGR 2272 - Engineering Analysis II (3)
MATH 1103 - Precalculus Mathematics for Science and Engineering (3)
MATH 1121 - Calculus for Engineering Technology (3)
or ETGR 2171 - Engineering Analysis I (3)
PHYS 1101 - Introductory Physics I (3)
PHYS 1101L - Introductory Physics I Laboratory (1)
PHYS 1102 - Introductory Physics II (3)
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)
GEOG 2120 - Geographic Information Systems: Survey of Applications and Techniques (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)
or CMET 4127 - Construction Law and Regulatory Issues (3)
ECON 2101 - Principles of Economics - Macro (3)

Major Courses (65 credit hours)

CMET 1680 - Professional Development I: Construction Safety (1) *
CMET 2135 - Building Information Modeling (BIM) (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) (W)
CMET 4272 - Capstone Project (3) (O,W)
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 2105 - Plan Reading and Quantity Takeoff (3)
ETCE 2163L - Construction Materials and Structures Lab (1)
ETCE 2221 - Construction Means and Methods (3)
ETCE 2410 - Introduction to Environmental Engineering Technology (3)
ETCE 3131 - Soil Mechanics and Earthwork (3)
ETCE 3131L - Soil Testing Laboratory (1) (W)

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:

ENER 4140 - Energy Management (3)
ENER 4250 - Analysis of Renewable Energy Systems (3)
ENER 4275 - Air Conditioning Systems (3)
SEGR 4961 - Introduction to Energy Systems (3)
SEGR 4962 - Energy Markets (3)

Degree Total = 120 Credit Hours

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

- 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

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
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree

Double-Counted Courses

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).

More Information

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 freshmen or as transfer students.

Freshmen
Applicants entering as Freshmen must meet the general University admission requirements.

Transfers
Transfer admission into the department occurs in one of two situations:

1) Transfer applicants not having 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:

a) 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, Computer, Controls, Design and Drafting, Electrical, Electronics, Environmental, Fire Protection, Fire Science, Industrial, Instrumentation, Manufacturing, Mechanical, Optics, Robotics, Surveying or similar title with curriculum acceptable to the department. A minimum GPA of 2.5 (out of 4.0) in the AAS degree is required.

b) Have completed satisfactorily the prerequisite background

courses for the option they plan to enter (missing background courses may be taken at UNC Charlotte).

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 credit 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 making application for the program. For more information, contact the College of Engineering Office of Student Development and Success or the University Career Center.

Course Requirements

Course requirements correspond to the mode of admission for each student as outlined hereafter.

- **Entering Freshmen:** Students admitted as Freshmen 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 that they were admitted into 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.

Academic Progression Requirements

Freshman Year Requirements

All new freshmen, including early college and dual enrolled students that have college credit prior to high school graduation, 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.
- Pass all courses within three attempts, including withdrawing from a course with a grade of W.
- Earn a 2.00 cumulative GPA upon completion of the Freshman curriculum.

Sophomore through Senior Year Requirements

- Maintain an overall GPA of 2.000 in the University.
- Maintain a major cumulative GPA of 2.000 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 a course in their 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 reenroll 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. Readmission to the College of Engineering after a University suspension is not automatic. An application for readmission must be made by the student and approved by the College/department. Students who are readmitted 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.

Degree Requirements (4-Year Program)

The BSET in Civil Engineering Technology program consists of 120 credit hours.

General Education Courses (18 credit hours)

For details on LBST, UWRT, and Social Sciences required courses, refer to the General Education program.

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)*
MATH 1121 - Calculus for Engineering Technology (3)*
or ETGR 2171 - Engineering Analysis I (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)
GEOG 2120 - Geographic Information Systems: Survey of Applications and Techniques (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 2135 - Building Information Modeling (BIM) (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 2105 - Plan Reading and Quantity Takeoff (3)
ETCE 2163L - Construction Materials and Structures Lab (1)
ETCE 2221 - Construction Means and Methods (3)
ETCE 2410 - Introduction to Environmental Engineering Technology (3)
ETCE 3131 - Soil Mechanics and Earthwork (3)
ETCE 3131L - Soil Testing Lab (W) (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) (W)
ETCE 4266 - Reinforced Concrete Design (3)
ETCE 4272 - Capstone Project (3) (O, W)
ETCE 4350 - Construction Geotechnics and Foundations (3)
ETGR 1100L - Engineering Technology Computer Applications Lab (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.*

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 3272 - Applied Numerical Methods (3)
ETGR 4272 - Engineering Analysis IV (3)
CMET 4073 - Special Topics - Construction Management (1to 4)
CMET 4126 - Project Scheduling and Control (3)
CMET 4127 - Construction Law and Regulatory Issues (3)
CMET 4130 - Infrastructure Systems (3) (W)
CMET 4135 - Building Information Modeling (3)
CMET 4150 - Green Building (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) (W)
GEOG 3120 - Fundamentals of Geographic Information Systems (4)
GEOG 3200 - Land Use Planning (3)
GEOG 3210 - Regional Planning (3)
GEOG 3215 - Environmental Planning (3) (W)
GEOG 4040 - Transportation Topics (3)
GEOL 3190 - Environmental Geology (3)
GEOL 4145 - Hydrogeology (4)
CHEM 1252 - General Chemistry II (3)

Degree Total = 120 Credit Hours

Degree Requirements (2+2-Year Program)

The B.S. in Civil Engineering Technology (BSET) 2+2-year degree program consists of 120 credit hours, which may include up to 64 credit hours of approved courses from an approved A.A.S. degree.

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 (9 credit hours)

Students must select three courses from the LBST 2XXX series. For further details on required LBST courses, 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)
GEOG 2120 - Geographic Information Systems: Survey of Applications and Techniques (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) (W)
ETCE 3242 - Hydraulics and Hydrology (3)
ETCE 3264 - Structural Analysis (3)
ETCE 4165 - Structural Steel Design (3)
ETCE 4251 - Highway Design and Construction (3) (W)
ETCE 4266 - Reinforced Concrete Design (3)
ETCE 4272 - Capstone Project (3) (O,W)
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 3272 - Applied Numerical Methods (3)
ETGR 4272 - Engineering Analysis IV (3)
CMET 4073 - Special Topics - Construction Management (1 to 4)
CMET 4126 - Project Scheduling and Control (3)
CMET 4127 - Construction Law and Regulatory Issues (3)
CMET 4130 - Infrastructure Systems (3) (W)
CMET 4135 - Building Information Modeling (3)
CMET 4150 - Green Building (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) (W)
GEOG 3120 - Fundamentals of Geographic Information Systems (4)
GEOG 3200 - Land Use Planning (3)
GEOG 3210 - Regional Planning (3)
GEOG 3215 - Environmental Planning (3) (W)
GEOG 4040 - Transportation Topics (3)
GEOL 3190 - Environmental Geology (3)
GEOL 4145 - Hydrogeology (4)
CHEM 1252 - General Chemistry II (3)

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 freshmen or as transfer students.

Freshman

Applicants entering as Freshmen must meet the general University admission requirements.

Transfers

Transfer student admission into the department occurs in one of two situations:

1) Transfer applicants not having the Associate in Applied Science (AAS) degree or its equivalent must meet general University admission requirements. Transfer applicants with an Associate of Applied Science (AAS) degree must:
   a) 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, Computer, Controls, Design and Drafting, Electrical, Electronics, Environmental, Fire Protection, Fire Science, Industrial, Instrumentation,

Manufacturing, Mechanical, Optics, Robotics, Surveying or similar title with curriculum acceptable to the department. A minimum GPA of 2.5 (out of 4.0) in the AAS degree is required.

b) Have completed satisfactorily the prerequisite background courses for the option they plan to enter (missing background courses may be taken at UNC Charlotte).

2) 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 making application for the program. For more information, contact the College of Engineering Office of Student Development and Success or the University Career Center.

Course Requirements

Course requirements correspond to the mode of admission for each student as outlined hereafter.

- **Entering Freshmen:** Students admitted as Freshmen 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 that they were admitted into 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.

Degree Requirements

The BSET in Civil Engineering Technology with Concentration in Applied Energy and Sustainable Systems consists of 120 credit hours.

General Education Courses (18 credit hours)

For details on required LBST, UWRT, and Social Sciences courses, refer to the General Education program.

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)*
MATH 1121 - Calculus for Engineering Technology (3)*
or ETGR 2171 - Engineering Analysis I (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)
GEOG 2120 - Geographic Information Systems: Survey of Applications and Techniques (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 2135 - Building Information Modeling (BIM) (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 2105 - Plan Reading and Quantity Takeoff (3)
ETCE 2163L - Construction Materials and Structures Lab (1)
ETCE 2221 - Construction Means and Methods (3)
ETCE 2410 - Introduction to Environmental Engineering Technology (3)
ETCE 3131 - Soil Mechanics and Earthwork (3)
ETCE 3131L - Soil Testing Laboratory (1) (W)
ETCE 3242 - Hydraulics and Hydrology (3)
ETCE 3264 - Structural Analysis (3)
ETCE 4165 - Structural Steel Design (3)
ETCE 4251 - Highway Design and Construction (3) (W)
ETCE 4266 - Reinforced Concrete Design (3)
ETCE 4272 - Capstone Project (3) (O,W)
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:

ENER 4140 - Energy Management (3)
ENER 4250 - Analysis of Renewable Energy Systems (3)
ENER 4275 - Air Conditioning Systems (3)
ETCE 3271 - Building Systems (3)
SEGR 4961 - Introduction to Energy Systems (3)
SEGR 4962 - Energy Markets (3)

Degree Total = 120 Credit Hours

Electrical Engineering Technology

Electrical Engineering Technology includes programming, AC/DC circuits, digital circuits, microprocessors and microcontrollers, solid-state electronics, integrated circuits, analog and digital systems, linear and nonlinear networks, power systems, control systems, and engineering economics.

BSET in Electrical Engineering Technology

Admission Requirements

Students for this degree may enter degree programs in the Department of Engineering Technology and Construction Management as freshmen or as transfer students.

Freshman Admission
Applicants entering as Freshmen must meet the general University admission requirements.

Transfer Admission
Transfer admission into the department occurs in one of two situations:

1) Transfer applicants not having 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:
    a) 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, Computer, Controls, Design and Drafting, Electrical, Electronics, Environmental, Fire Protection, Fire Science, Industrial, Instrumentation, Manufacturing, Mechanical, Optics, Robotics, Surveying or similar title with curriculum acceptable to the department.A minimum GPA of 2.5 (out of 4.0) in the AAS degree is required.
    b) Have completed satisfactorily the prerequisite background courses for the option they plan to enter (missing background courses may be taken at UNC Charlotte).

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 making application for the program. For more information, contact the College of Engineering Office of Student Development and Success or the University Career Center.

Course Requirements

Course requirements correspond to the mode of admission for each student as outlined hereafter.

- **Entering Freshmen:** Students admitted as Freshmen 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 that they were admitted into 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)
- Differential and Integral Calculus (6 credit hours)
- Physics with lab (8 credit hours)
- Technical Courses in Major Area as listed below (up to 36 credit hours)
  - DC Circuits
  - AC Circuits with Lab
  - Digital Circuits with Lab
  - Electronic Devices with Lab
  - Microprocessors
  - Instrumentation or Programmable Logic Controllers and associated laboratory
  - C Programming

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.

Academic Progression Requirements

Freshman Year Requirements

All new freshmen, including early college and dual enrolled students that have college credit prior to high school graduation, 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.
- Pass all courses within three attempts, including withdrawing from a course with a grade of W.
- Earn a 2.00 cumulative GPA upon completion of the Freshman curriculum.

Sophomore through Senior Year Requirements

- Maintain an overall GPA of 2.000 in the University.
- Maintain a major cumulative GPA of 2.000 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 a course in their 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 reenroll 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. Readmission to the College of Engineering after a University suspension is not automatic. An application for readmission must be made by the student and approved by the College/department. Students who are readmitted 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.

Degree Requirements (4-Year Program)

The BSET in Electrical Engineering Technology program consists of 120 credit hours.

General Education Courses (18 credit hours)

For details on required LBST, UWRT, and Social Sciences courses, refer to the General Education program.

Mathematics and Science Foundation Courses (23 credit hours)

MATH 1103 - Precalculus Mathematics for Science and Engineering (3)

MATH 1121 - Calculus for Engineering Technology (3)
or ETGR 2171 - Engineering Analysis I (3)
ETGR 2272 - Engineering Analysis II (3)
ETGR 3171 - Engineering Analysis III (3)
or ETGR 4272 - Engineering Analysis IV (3)
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)
STAT 1220 - Elements of Statistics I (BUSN) (3)

Major Courses (67 credit hours)
ELET 1102 - C Programming (3)
ELET 1211 - DC Circuits (3)
ELET 1231 - Digital Circuits (3)
ELET 1231L - Digital Circuits Laboratory (1)
ELET 2112 - AC Circuits (3)
ELET 2113L - DC/AC Circuits Laboratory (1)
ELET 2221 - Electronics I (3)
ELET 2221L - Electronics I Laboratory (1)
ELET 2231 - Microprocessor Fundamentals (3)
ELET 2241 - Instrumentation and Controls (3)
ELET 2241L - Instrumentation Laboratory (1) (W)
ELET 2290 - Sophomore Practicum (3)
ELET 3113 - Network Analysis (3)
ELET 3132 - Digital Systems (3)
ELET 3132L - Digital Systems Laboratory (1) (W)
ELET 3141 - Power Systems and Machines (3)
ELET 3190 - Junior Practicum (3)
ELET 3222 - Electronics II (3)
ELET 3222L - Electronics II Laboratory (1) (W)
ELET 3232 - Advanced Microcontroller Systems (3)
ELET 3242 - Fundamentals of Control Systems (3)
ELET 4123 - Active Filters (3)
ELET 4142 - Power Electronics (3)
ETGR 1101 - Introduction to Engineering Technology and Construction Management (1)
ETGR 1100L - Engineering Technology Computer Applications Laboratory (1)
ETGR 3222 - Engineering Economics (3)
ETGR 3295 - Multidisciplinary Professional Development (1)
ETGR 4100 - Capstone Design Project I (2) (O,W)
ETGR 4200 - Capstone Design Project II (2) (O,W)

Restricted Elective Courses (12 credit hours)
Select four of the following:
ELET 4133 - Embedded Systems (3)
ELET 4151 - Communication Systems (3)
ELET 4152 - Digital Signal Processing (3)
ELET 4224 - Advanced Filter Design (3)
ELET 4243 - Power Networks (3)
ENER 4140 - Energy Management (3)
ENER 4250 - Analysis of Renewable Energy Systems (3)
ENER 4260 - Hydrogen Production and Storage (3)
ENER 4280 - Fuel Cell Technology (3)
ETCE 3271 - Building Systems (3)
ETGR 2101 - Applied Mechanics I (3)
ETGR 2102 - Applied Mechanics II (3)
or ETME 3123 - Strength of Materials (3)
ETGR 3000 - Special Topics in Engineering Technology (1 to 4) *(must be approved by advisor in advance)*
ETME 2130 - Applied Materials and Manufacturing I (3)
ETME 3113 - Dynamics (3)
ETME 3150 - Applied CAD Modeling and Simulation (3)
ETME 3213 - Machine Design I (3)
SEGR 4961 - Introduction to Energy Systems (3)
SEGR 4962 - Energy Markets (3)
STAT 1220 - Elements of Statistics I (BUSN) (3) *(only for A.A.S. transfer students without A.A.S. statistics credit)*

Degree Total = 120 Credit Hours

Degree Requirements (2+2-Year Program)

The BSET in Electrical Engineering Technology program consists of 120 credit hours, which may include up to 59 credit hours for approved courses from an approved A.A.S. program.

A.A.S. Degree (59 credit hours)
A.A.S. transfer students may receive up to 59 credit hours for approved courses from an approved A.A.S. degree toward the Electrical Engineering Technology program; 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 (9 credit hours)
Students must take three courses from the LBST 2XXX series. For details on required LBST courses, refer to the General Education Program.

Mathematics and Science Foundation Course (3 credit hours)
Select one of the following:
ETGR 3171 - Engineering Analysis III (3)
ETGR 4272 - Engineering Analysis IV (3)

Major Courses (37 credit hours)
ELET 3113 - Network Analysis (3)
ELET 3132 - Digital Systems (3)
ELET 3132L - Digital Systems Laboratory (1) (W)
ELET 3141 - Power Systems and Machines (3)
ELET 3190 - Junior Practicum (3)
ELET 3222 - Electronics II (3)
ELET 3222L - Electronics II Laboratory (1) (W)
ELET 3232 - Advanced Microcontroller Systems (3)
ELET 3242 - Fundamentals of Control Systems (3)
ELET 4123 - Active Filters (3)
ELET 4142 - Power Electronics (3)
ETGR 3222 - Engineering Economics (3)
ETGR 3295 - Multidisciplinary Professional Development (1)
ETGR 4100 - Capstone Design Project I (2) (O,W)
ETGR 4200 - Capstone Design Project II (2) (O,W)

Restricted Elective Courses (12 credit hours)
Select four of the following:
ELET 4133 - Embedded Systems (3)
ELET 4151 - Communication Systems (3)
ELET 4152 - Digital Signal Processing (3)
ELET 4224 - Advanced Filter Design (3)
ELET 4243 - Power Networks (3)

ENER 4140 - Energy Management (3)
ENER 4250 - Analysis of Renewable Energy Systems (3)
ENER 4260 - Hydrogen Production and Storage (3)
ENER 4280 - Fuel Cell Technology (3)
ETCE 3271 - Building Systems (3)
ETGR 2101 - Applied Mechanics I (3)
ETGR 2102 - Applied Mechanics II (3)
or ETME 3123 - Strength of Materials (3)
ETGR 3000 - Special Topics in Engineering Technology (1 to 4) *(must be approved by advisor in advance)*
ETME 2130 - Applied Materials and Manufacturing I (3)
ETME 3113 - Dynamics (3)
ETME 3150 - Applied CAD Modeling and Simulation (3)
ETME 3213 - Machine Design I (3)
SEGR 4961 - Introduction to Energy Systems (3)
SEGR 4962 - Energy Markets (3)
STAT 1220 - Elements of Statistics I (BUSN) (3) *(only for AAS transfer students without AAS statistics credit)*

Degree Total = 120 Credit Hours

BSET in Electrical Engineering Technology *with Concentration in Applied Energy*

A Concentration in Applied Energy is available to BSET in Electrical Engineering Technology students.

Admission Requirements

Students for this degree may enter degree programs in the Department of Engineering Technology and Construction Management as freshmen or as transfer students.

Freshman Admission

Applicants entering as Freshmen must meet the general University admission requirements.

Transfer Admission

Transfer admission into the department occurs in one of two situations:

1) Transfer applicants not having 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:
   a) 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, Computer, Controls, Design and Drafting, Electrical, Electronics, Environmental, Fire Protection, Fire Science, Industrial, Instrumentation, Manufacturing, Mechanical, Optics, Robotics, Surveying or similar title with curriculum acceptable to the department. A minimum GPA of 2.5 (out of 4.0) in the AAS degree is required.
   b) Have completed satisfactorily the prerequisite background courses for the option they plan to enter (missing background courses may be taken at UNC Charlotte).

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 making application for the program. For more information, contact the College of Engineering Office of Student Development and Success or the University Career Center.

Course Requirements

Course requirements correspond to the mode of admission for each student as outlined hereafter.

- **Entering Freshmen:** Students admitted as Freshmen 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 that they were admitted into 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)
- Differential and Integral Calculus (6 credit hours)
- Physics with lab (8 credit hours)
- Technical Courses in Major Area as listed below (up to 36 credit hours)

- DC Circuits
- AC Circuits with Lab
- Digital Circuits with Lab
- Electronic Devices with Lab
- Microprocessors
- Instrumentation or Programmable Logic Controllers and associated laboratory
- C Programming

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.

Academic Progression Requirements

Freshman Year Requirements

All new freshmen, including early college and dual enrolled students that have college credit prior to high school graduation, 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.
- Pass all courses within three attempts, including withdrawing from a course with a grade of W.
- Earn a 2.00 cumulative GPA upon completion of the Freshman curriculum.

Sophomore through Senior Year Requirements

- Maintain an overall GPA of 2.000 in the University.
- Maintain a major cumulative GPA of 2.000 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 a course in their 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 reenroll 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. Readmission to the College of Engineering after a University suspension is not automatic. An application for readmission must be made by the student and approved by the College/department. Students who are readmitted 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.

Degree Requirements

The BSET in Electrical Engineering Technology with Concentration in Applied Energy program consists of 120 credit hours.

General Education Courses (18 credit hours)

For details on required LBST, UWRT, and Social Sciences courses, refer to the General Education Program.

Mathematics and Science Foundation Courses (23 credit hours)

ETGR 2272 - Engineering Analysis II (3)
ETGR 3171 - Engineering Analysis III (3)
or ETGR 4272 - Engineering Analysis IV (3)
MATH 1103 - Precalculus Mathematics for Science and Engineering (3)
MATH 1121 - Calculus for Engineering Technology (3)
or ETGR 2171 - Engineering Analysis I (3)
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)
STAT 1220 - Elements of Statistics I (BUSN) (3)

Major Courses (67 credit hours)

ELET 1102 - C Programming (3)
ELET 1211 - DC Circuits (3)
ELET 1231 - Digital Circuits (3)
ELET 1231L - Digital Circuits Laboratory (1)
ELET 2112 - AC Circuits (3)
ELET 2113L - DC/AC Circuits Laboratory (1)
ELET 2221 - Electronics I (3)
ELET 2221L - Electronics I Laboratory (1)
ELET 2231 - Microprocessor Fundamentals (3)
ELET 2241 - Instrumentation and Controls (3)
ELET 2241L - Instrumentation Laboratory (1) (W)
ELET 2290 - Sophomore Practicum (3)
ELET 3113 - Network Analysis (3)
ELET 3132 - Digital Systems (3)
ELET 3132L - Digital Systems Laboratory (1) (W)
ELET 3141 - Power Systems and Machines (3)
ELET 3190 - Junior Practicum (3)
ELET 3222 - Electronics II (3)
ELET 3222L - Electronics II Laboratory (1) (W)
ELET 3232 - Advanced Microcontroller Systems (3)
ELET 3242 - Fundamentals of Control Systems (3)
ELET 4123 - Active Filters (3)
ELET 4142 - Power Electronics (3)
ETGR 1100L - Engineering Technology Computer Applications Laboratory (1)
ETGR 1101 - Introduction to Engineering Technology and Construction Management (1)
ETGR 3222 - Engineering Economics (3)
ETGR 3295 - Multidisciplinary Professional Development (1)
ETGR 4100 - Capstone Design Project I (2) (O,W)

ETGR 4200 - Capstone Design Project II (2) (O,W)

Concentration Courses (12 credit hours)
In addition to required courses ELET 3141 and ELET 4142, select two of the following:
ELET 4243 - Power Networks (3)
ENER 4140 - Energy Management (3)
ENER 4250 - Analysis of Renewable Systems (3)
ENER 4260 - Hydrogen Production and Storage (3)
ENER 4280 - Fuel Cell Technology (3)
ETCE 3271 - Building Systems (3)
SEGR 4961 - Introduction to Energy Systems (3)
SEGR 4962 - Energy Markets (3)
Other courses as approved

Restricted Elective Courses (6 credit hours)
Select two of the following not previously identified as a Concentration Course:
ELET 4133 - Embedded Systems (3)
ELET 4151 - Communication Systems (3)
ELET 4152 - Digital Signal Processing (3)
ELET 4224 - Advanced Filter Design (3)
ELET 4243 - Power Networks (3)
ENER 4140 - Energy Management (3)
ENER 4250 - Analysis of Renewable Energy Systems (3)
ENER 4260 - Hydrogen Production and Storage (3)
ENER 4280 - Fuel Cell Technology (3)
ETCE 3271 - Building Systems (3)
ETGR 2101 - Applied Mechanics I (3)
ETGR 2102 - Applied Mechanics II (3)
or ETME 3123 - Strength of Materials (3)
ETGR 3000 - Special Topics in Engineering Technology (1 to 4) *(must be approved by advisor in advance)*
ETME 2130 - Applied Materials and Manufacturing I (3)
ETME 3113 - Dynamics (3)
ETME 3150 - Applied CAD Modeling and Simulation (3)
ETME 3213 - Machine Design I (3)
SEGR 4961 - Introduction to Energy Systems (3)
SEGR 4962 - Energy Markets (3)
STAT 1220 - Elements of Statistics I (BUSN) (3) *(only for A.A.S. transfer students without A.A.S. statistics credit)*

Degree Total = 120 Credit Hours

BSET in Electrical Engineering Technology *with Concentration in Electromechanical Systems*

A Concentration in Electromechanical Systems is available to BSET in Electrical Engineering Technology students.

Admission Requirements

Students for this degree may enter degree programs in the Department of Engineering Technology and Construction Management as freshmen or as transfer students.

Freshmen
Applicants entering as Freshmen must meet the general University admission requirements.

Transfers
Transfer admission into the department occurs in one of two situations:

1) Transfer applicants not having 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:
   a) 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, Computer, Controls, Design and Drafting, Electrical, Electronics, Environmental, Fire Protection, Fire Science, Industrial, Instrumentation, Manufacturing, Mechanical, Optics, Robotics, Surveying or similar title with curriculum acceptable to the department. A minimum GPA of 2.5 (out of 4.0) in the AAS degree is required.
   b) Have completed satisfactorily the prerequisite background courses for the option they plan to enter (missing background courses may be taken at UNC Charlotte).

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 making application for the program. For more information, contact the College of Engineering Office of Student Development and Success or the University Career Center.

Course Requirements
Course requirements correspond to the mode of admission for each student as outlined hereafter.

- **Entering Freshmen:** Students admitted as Freshmen 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 that they were admitted into 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)
- Differential and Integral Calculus (6 credit hours)
- Physics I and II (each with lab) (8 credit hours)
- Technical Courses in Major Area (up to 38 credit hours)
    - DC Circuits
    - AC Circuits with Lab
    - Digital Circuits with Lab
    - Electronic Devices with Lab
    - Microprocessors
    - Instrumentation or Programmable Logic Controllers and associated laboratory
    - C Programming

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.

Academic Progression Requirements

Freshman Year Requirements

All new freshmen, including early college and dual enrolled students that have college credit prior to high school graduation, 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.
- Pass all courses within three attempts, including withdrawing from a course with a grade of W.
- Earn a 2.00 cumulative GPA upon completion of the Freshman curriculum.

Sophomore through Senior Year Requirements

- Maintain an overall GPA of 2.000 in the University.
- Maintain a major cumulative GPA of 2.000 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 a course in their 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 reenroll 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. Readmission to the College of Engineering after a University suspension is not automatic. An application for readmission must be made by the student and approved by the College/department. Students who are readmitted 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.

Degree Requirements

The BSET in Electrical Engineering Technology with Concentration in Electromechanical Systems program consists of 120 credit hours.

General Education Courses (18 credit hours)

For details on required LBST, UWRT, and Social Sciences courses, refer to the General Education Program.

Mathematics and Science Foundation Courses (23 credit hours)

MATH 1103 - Precalculus Mathematics for Science and Engineering (3)
MATH 1121 - Calculus for Engineering Technology (3)
or MATH 1241 - Calculus I (3)
or ETGR 2171 - Engineering Analysis I (3)
MATH 1242 - Calculus II (3)
or ETGR 2272 - Engineering Analysis II (3)
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)
STAT 1220 - Elements of Statistics I (BUSN) (3)
ETGR 3171 - Engineering Analysis III (3)
or ETGR 4272 - Engineering Analysis IV (3)

Major Courses (67 credit hours)

ELET 1102 - C Programming (3)
ELET 1211 - DC Circuits (3)
ELET 1231 - Digital Circuits (3)
ELET 1231L - Digital Circuits Laboratory (1)
ELET 2112 - AC Circuits (3)

ELET 2113L - DC/AC Circuits Laboratory (1)
ELET 2221 - Electronics I (3)
ELET 2221L - Electronics I Laboratory (1)
ELET 2231 - Microprocessor Fundamentals (3)
ELET 2241 - Instrumentation and Controls (3)
ELET 2241L - Instrumentation Laboratory (1) (W)
ELET 2290 - Sophomore Practicum (3)
ELET 3113 - Network Analysis (3)
ELET 3132 - Digital Systems (3)
ELET 3132L - Digital Systems Laboratory (1) (W)
ELET 3141 - Power Systems and Machines (3)
ELET 3190 - Junior Practicum (3)
ELET 3222 - Electronics II (3)
ELET 3222L - Electronics II Laboratory (1) (W)
ELET 3232 - Advanced Microcontroller Systems (3)
ELET 3242 - Fundamentals of Control Systems (3)
ELET 4123 - Active Filters (3)
ELET 4142 - Power Electronics (3)
ETGR 1100L - Engineering Technology Computer Applications Laboratory (1)
ETGR 1101 - Introduction to Engineering Technology and Construction Management (1)
ETGR 3222 - Engineering Economics (3)
ETGR 3295 - Multidisciplinary Professional Development (1)
ETGR 4100 - Capstone Design Project I (2) (O,W)
ETGR 4200 - Capstone Design Project II (2) (O,W)

Concentration Courses (12 credit hours)
In addition to ELET 2241 taken above, select three of the following:
ETGR 2101 - Applied Mechanics I (3)
ETME 1111 - CAD Modeling I (3)
ETME 2102 - Mechanisms (3)
ETME 2130 - Applied Materials and Manufacturing I (3)
ETME 3113 - Dynamics (3)
ETME 3123 - Strength of Materials (3)
ETME 3133 - Fluid Mechanics (3)
ETME 3150 - Applied CAD Modeling and Simulation (3)
ENER 4290 - Advanced Instrumentation and Controls (3)

Degree Total = 120 Credit Hours

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 freshmen or as transfer students.

Freshman Admission

Applicants entering as Freshmen must meet the general University admission requirements.

Transfer Admission

Transfer admission into the department occurs in one of two situations:

1) Transfer applicants not having 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:
   a) 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, Computer, Controls, Design and Drafting, Electrical, Electronics, Environmental, Fire Protection, Fire Science, Industrial, Instrumentation, Manufacturing, Mechanical, Optics, Robotics, Surveying or similar title with curriculum acceptable to the department. A minimum GPA of 2.5 (out of 4.0) in the AAS degree is required.
   b) Have completed satisfactorily the prerequisite background courses for the option they plan to enter (missing background courses may be taken at UNC Charlotte).

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 making application for the program. For more information, contact the College of Engineering Office of Student Development and Success or the University Career Center.

Course Requirements

Course requirements correspond to the mode of admission for each student as outlined hereafter.

- **Entering Freshmen:** Students admitted as Freshmen 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 that they were admitted into 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)
- College Algebra (3 credit hours)
- Precalculus (3 credit hours)
- General Physics (with lab) (4 credit hours)
- Chemistry (3 credit hours)
- Technical Courses in Major Area as listed below (up to 37 credit hours)
    - Introduction to Fire Protection and Prevention
    - Water Based Fire Suppression
    - Fire Protection and Safety Law
    - Fire Investigation
    - Building Construction
    - Introduction to Fire Behavior
    - State and Local Government
    - Introduction to Public Administration
    - Occupational Safety
    - Computer Literacy
    - Computer-Aided Drafting

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.

Academic Progression Requirements

Freshman Year Requirements

All new freshmen, including early college and dual enrolled students that have college credit prior to high school graduation, 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.
- Pass all courses within three attempts, including withdrawing from a course with a grade of W.
- Earn a 2.00 cumulative GPA upon completion of the Freshman curriculum.

Sophomore through Senior Year Requirements

- Maintain an overall GPA of 2.000 in the University.
- Maintain a major cumulative GPA of 2.000 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 a course in their 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 reenroll 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. Readmission to the College of Engineering after a University suspension is not automatic. An application for readmission must be made by the student and approved by the College/department. Students who are readmitted 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.

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 (18 credit hours)

For details on required LBST, UWRT, and Social Sciences courses, refer to the General Education Program.

Mathematics and Science Foundation Courses (16 credit hours)

MATH 1100 - College Algebra (3)
MATH 1103 - Precalculus Mathematics for Science and Engineering (3)
STAT 1220 - Elements of Statistics I (BUSN) (3)
CHEM 12XX - Chemistry Elective (3)
PHYS 1101 - Introductory Physics I (3)
PHYS 1101L - Introductory Physics I Laboratory (1)

Major Courses (77 credit hours)

ETFS 1220 - Introduction to Fire Protection and Prevention (3)
ETFS 1244 - Water-Based Fire Suppression (3)
ETFS 1252 - Fire Protection and Safety Law (3)
ETFS 2126 - Fire Investigation and Forensics (3)
ETFS 2132 - Building Construction for Fire Protection (3)
ETFS 2264 - Introduction to Fire Behavior (3)
ETFS 3103 - Fire Dynamics (3)
ETFS 3103L - Fire Dynamics Lab (1) (W)
ETFS 3113 - Fire Safety in the Built Environment (3) (W)
ETFS 3123 - Industrial Hazards and Electricity (3)
ETFS 3124 - Risk Management (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) (O,W)
ETFS 4323 - Advanced Fire Service Administration (3)
ETGR 1101 - Introduction to Engineering Technology and Construction Management (1)
ETGR 1100L - Engineering Technology Computer Applications Laboratory (1)
ETGR 1103 - Technical Drawing I (3)
ETGR 2106 - Electronic Circuits and Devices (3)
ETGR 2230 - Occupational Safety (3)
ETGR 3222 - Engineering Economics (3)
ETGR 3295 - Multidisciplinary Professional Development (1)
ETGR 4301 - Environmental Pollution Control (3)
ETGR 4302 - Industrial Hygiene (3)
ETGR 4303 - Applied Ergonomics and Human Factors (3)
POLS 3119 - State and Local Government (3)
POLS 3126 - Introduction to Public Administration (3)
PSYC 2171 - Introduction to Industrial/Organizational Psychology (3)
or PSYC 3174 - Organizational Psychology (3)
or Directed Elective approved by advisor

Restricted Elective Courses (9 credit hours)

Select three 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 3000 level or above
ELET 3000 level or above
ENER 3000 level or above
ETCE 3000 level or above
ETFS 3000 level or above
ETGR 3000 level or above
ETME 3000 level or above

Degree Total = 120 credit hours

Degree Requirements (2+2-Year Program)

The BSET in Fire and Safety Engineering Technology with a Concentration in Fire Safety program consists of 120 credit hours.

A.A.S. Degree (60 credit hours)

A.A.S. transfer students from approved programs 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 Course (3 credit hours)

For details on required LBST courses, refer to the General Education Program.

Major Courses (48 credit hours)

ETFS 3103 - Fire Dynamics (3)
ETFS 3103L - Fire Dynamics Lab (1) (W)
ETFS 3113 - Fire Safety in the Built Environment (3) (W)
ETFS 3123 - Industrial Hazards and Electricity (3)
ETFS 3124 - Risk Management (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) (O,W)
ETFS 4323 - Advanced Fire Service Administration (3)
ETGR 2106 - Electronic Circuits and Devices (3)
ETGR 3222 - Engineering Economics (3)
ETGR 3295 - Multidisciplinary Professional Development (1)
ETGR 4301 - Environmental Pollution Control (3)
ETGR 4302 - Industrial Hygiene (3)
ETGR 4303 - Applied Ergonomics and Human Factors (3)
PSYC 2171 - Introduction to Industrial/Organizational Psychology (3)
or PSYC 3174 - Organizational Psychology (3)
or Directed Elective approved by advisor
STAT 1220 - Elements of Statistics I (BUSN) (3)

Restricted Elective Courses (9 credit hours)

Select three 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 3000 level or above
ELET 3000 level or above
ENER 3000 level or above
ETCE 3000 level or above
ETFS 3000 level or above
ETGR 3000 level or above
ETME 3000 level or above

Degree Total = 120 credit hours

BSET in Fire and Safety Engineering Technology *with Concentration in Occupational Safety*

The Concentration in Occupational Safety is intended for students who are interested in the identification and solution of complex safety and environmental challenges. This multi-disciplinary program introduces areas encompassing construction/ built environment, electrical, mechanical, physical and natural sciences, and mathematics, in addition to providing a solid foundation in construction safety, industrial hazards and electricity, environmental pollution control, safety management, accident prevention, safety law and compliance, industrial hygiene, fire prevention and protection, and applied ergonomics and human factors. Quantitative and computer skills are heavily emphasized throughout the program and 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 freshmen or as transfer students.

Freshman Admission

Applicants entering as Freshmen must meet the general University admission requirements.

Transfer Admission

Transfer admission into the department occurs in one of two situations:

1) Transfer applicants not having 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:
   a) 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, Computer, Controls, Design and Drafting, Electrical, Electronics, Environmental, Fire Protection, Fire Science, Industrial, Instrumentation, Manufacturing, Mechanical, Optics, Robotics, Surveying or similar title with curriculum acceptable to the department. A minimum GPA of 2.5 (out of 4.0) in the AAS degree is required.
   b) Have completed satisfactorily the prerequisite background courses for the option they plan to enter (missing background courses may be taken at UNC Charlotte).

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 making application for the program. For more information, contact the College of Engineering Office of Student Development and Success or the University Career Center.

Course Requirements

Course requirements correspond to the mode of admission for each student as outlined hereafter.

- **Entering Freshmen**: Students admitted as Freshmen 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 that they were admitted into 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)
- Differential and Integral Calculus (6 credit hours)
- Physics with lab (4 credit hours)
- Chemistry (3 credit hours)
- Principles of Biology (3 credit hours)
- Technical Courses in Major Area as listed below (up to 35 credit hours)
  - Introduction to Fire Protection and Prevention

- Water-Based Fire Suppression
- Fire Protection and Safety Law
- Fire Investigation
- Building Construction
- Introduction to Fire Behavior
- Computer-Aided Drafting
- 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.

Academic Progression Requirements

Freshman Year Requirements

All new freshmen, including early college and dual enrolled students that have college credit prior to high school graduation, 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.
- Pass all courses within three attempts, including withdrawing from a course with a grade of W.
- Earn a 2.00 cumulative GPA upon completion of the Freshman curriculum.

Sophomore through Senior Year Requirements

- Maintain an overall GPA of 2.000 in the University.
- Maintain a major cumulative GPA of 2.000 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 a course in their 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 reenroll 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. Readmission to the College of Engineering after a University suspension is not automatic. An application for readmission must be made by the student and approved by the College/department. Students who are readmitted 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.

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 (18 credit hours)

For details on required LBST, UWRT, and Social Sciences courses, refer to the General Education Program.

Mathematics and Science Foundation Courses (25 credit hours)

MATH 1103 - Precalculus Mathematics for Science and Engineering (3)
MATH 1121 - Calculus for Engineering Technology (3)
or ETGR 2171 - Engineering Analysis I (3)
ETGR 2272 - Engineering Analysis II (3)
BIOL 1110 - Principles of Biology I (3)
BIOL 2273 - Human Anatomy and Physiology (3)
CHEM 12XX - Chemistry (3)
PHYS 1101 - Introductory Physics I (3)
PHYS 1101L - Introductory Physics I Laboratory (1)
STAT 1220 - Elements of Statistics I (BUSN) (3)

Major Courses (71 credit hours)

CMET 1680 - Professional Development I: Construction Safety (1)
ETFS 1220 - Introduction to Fire Protection and Prevention (3)
ETFS 1244 - Water-Based Fire Suppression (3)
ETFS 1252 - Fire Protection and Safety Law (3)
ETFS 2126 - Fire Investigation and Forensics (3)
ETFS 2132 - Building Construction for Fire Protection (3)
ETFS 2264 - Introduction to Fire Behavior (3)
ETFS 3103 - Fire Dynamics (3)
ETFS 3113 - Fire Safety in the Built Environment (3) (W)
ETFS 3123 - Industrial Hazards and Electricity (3)
ETFS 3124 - Risk Management (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) (O,W)
ETGR 1100L - Engineering Technology Computer Applications Laboratory (1)
ETGR 1101 - Introduction to Engineering Technology and Construction Management (1)
ETGR 1103 - Technical Drawing I (3)
ETGR 2106 - Electronic Circuits and Devices (3)
ETGR 2230 - Occupational Safety (3)
ETGR 3222 - Engineering Economics (3)
ETGR 3295 - Multidisciplinary Professional Development (1)
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)
PSYC 2171 - Introduction to Industrial/Organizational Psychology (3)
or PSYC 3174 - Organizational Psychology (3)
or Directed Elective approved by advisor

Restricted Elective Courses (6 credit hours)
Select two 3000- or 4000-level courses within the Department of Engineering Technology and Construction Management with a minimum of 6 credit hours that are not already required for the major. Select from the following:

CMET 3000 level or above
ELET 3000 level or above
ENER 3000 level or above
ETCE 3000 level or above
ETFS 3000 level or above
ETGR 3000 level or above
ETME 3000 level or above

Degree Total = 120 Credit Hours

Degree Requirements (2+2-Year Program)

The BSET in Fire and Safety Engineering Technology with a Concentration in Occupational Safety program consists of 120 credit hours.

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 (6 credit hours)
For details on required LBST courses, refer to the General Education Program.

Mathematics and Science Foundation Course (3 credit hours)
BIOL 2273 - Human Anatomy and Physiology (3)

Major Courses (45 credit hours)
CMET 1680 - Professional Development I: Construction Safety (1)
ETFS 3103 - Fire Dynamics (3)
ETFS 3113 - Fire Safety in the Built Environment (3) (W)
ETFS 3123 - Industrial Hazards and Electricity (3)
ETFS 3124 - Risk Management (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) (O,W)
ETGR 2106 - Electronic Circuits and Devices (3)
ETGR 3222 - Engineering Economics (3)
ETGR 3295 - Multidisciplinary Professional Development (1)
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)
PSYC 2171 - Introduction to Industrial/Organizational Psychology (3)
or PSYC 3174 - Organizational Psychology (3)
or Directed Elective approved by advisor

Restricted Elective Courses (6 credit hours)
Select two 3000- or 4000-level courses within the Department of Engineering Technology and Construction Management with a minimum of 6 credit hours that are not already required for the major. Select from the following:

CMET 3000 level or above
ELET 3000 level or above
ENER 3000 level or above
ETCE 3000 level or above
ETFS 3000 level or above
ETGR 3000 level or above
ETME 3000 level or above

Degree Total = 120 Credit Hours

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

- 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
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree

Double-Counted Courses

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).

More Information

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*.

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

Freshmen

Applicants entering as Freshmen must meet the general University admission requirements.

Transfers

Transfer admission into the department occurs in one of two situations:

1) Transfer applicants not having 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:
    a) 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, Computer, Controls, Design and Drafting, Electrical, Electronics, Environmental, Fire Protection, Fire Science, Industrial, Instrumentation, Manufacturing, Mechanical, Optics, Robotics, Surveying or similar title with curriculum acceptable to the department. A minimum GPA of 2.5 (out of 4.0) in the AAS degree is required.
    b) Have completed satisfactorily the prerequisite background courses for the option they plan to enter (missing background courses may be taken at UNC Charlotte).

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 making application for the program. For more information, contact the College of Engineering Office of Student Development and Success or the University Career Center.

Course Requirements

Course requirements correspond to the mode of admission for each student as outlined hereafter.

- **Entering Freshmen:** Students admitted as Freshmen 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 that they were admitted into 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)
- Differential and Integral Calculus (6 credit hours)
- Physics I and II (each with lab) (8 credit hours)
- Chemistry (3 credit hours)
- Technical Courses in Major Area (up to 41 credit hours)
    - Parametric Solid Modeling
    - Manufacturing Processes
    - Metallurgy or Engineering Materials
    - Statics
    - Kinematics or Mechanisms
    - DC Circuits
    - Machine Shop Practices with Lab

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.

Academic Progression Requirements

Freshman Year Requirements

All new freshmen, including early college and dual enrolled students that have college credit prior to high school graduation, 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.
- Pass all courses within three attempts, including withdrawing from a course with a grade of W.
- Earn a 2.00 cumulative GPA upon completion of the Freshman curriculum.

Sophomore through Senior Year Requirements

- Maintain an overall GPA of 2.000 in the University.
- Maintain a major cumulative GPA of 2.000 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 a course in their 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 reenroll 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. Readmission to the College of Engineering after a University suspension is not automatic. An application for readmission must be made by the student and approved by the College/department. Students who are readmitted 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.

Degree Requirements (4-Year Program)

The BSET in Mechanical Engineering Technology program consists of 120 credit hours.

General Education Courses (18 credit hours)

For details on required LBST, UWRT, and Social Sciences courses, refer to the General Education Program.

Mathematics and Science Foundation Courses (26 credit hours)

CHEM 1251 - General Chemistry I (3)
ETGR 2272 - Engineering Analysis II (3)
ETGR 3171 - Engineering Analysis III (3)
or ETGR 4272 - Engineering Analysis IV (3)
MATH 1103 - Precalculus Mathematics for Science and Engineering (3)
MATH 1121 - Calculus for Engineering Technology (3)
or ETGR 2171 - Engineering Analysis I (3)
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)
STAT 1220 - Elements of Statistics I (BUSN) (3)

Major Courses (63 credit hours)

ELET 2241 - Instrumentation and Controls (3)
ELET 2241L - Instrumentation Laboratory (1) (W)
ETGR 1100L - Engineering Technology Computer Applications Lab (1)
ETGR 1101 - Introduction to Engineering Technology and Construction Management (1)
ETGR 2101 - Applied Mechanics I (3)
ETGR 2106 - Electronic Circuits and Devices (3)
ETGR 3222 - Engineering Economics (3)
ETGR 3295 - Multidisciplinary Professional Development (1)
ETGR 4100 - Capstone Design Project I (2) (O, W)
ETGR 4200 - Capstone Design Project II (2) (O, W)
ETME 1111 - CAD Modeling I (3)
ETME 1112 - CAD Modeling II (3)
ETME 2100 - Sophomore Design Practicum (2)
ETME 2100L - Sophomore Design Practicum Lab (1)
ETME 2102 - Mechanisms (3)
ETME 2130 - Applied Materials and Manufacturing I (3)
ETME 2131 - Applied Materials and Manufacturing II (3)
ETME 3100 - Junior Design Practicum (2)
ETME 3100L - Junior Design Practicum Lab (1)
ETME 3113 - Dynamics (3)
ETME 3123 - Strength of Materials (3)
ETME 3133 - Fluid Mechanics (3)
ETME 3143 - Thermodynamics (3)
ETME 3150 - Applied CAD Modeling and Simulation (3)
ETME 3213 - Machine Design I (3)
ETME 4244 - Applied Heat Transfer (3)

Elective Lab Course (1 credit hour)

Select one of the following:
ETME 3123L - Stress Analysis Laboratory (1) (W)
ETME 4244L - Thermal Fluids Laboratory (1) (W)

Restricted Elective Courses (12 credit hours)

Select four of the following:
CMET 3224 - Construction Project Administration (3)
ELET 1102 - C Programming (3)
ELET 1231 - Digital Circuits (3)
ELET 2231 - Microprocessor Fundamentals (3)
ELET 3113 - Network Analysis (3)
ELET 3132 - Digital Systems (3)
ELET 3141 - Power Systems and Machines (3)
ELET 3242 - Fundamentals of Control Systems (3)
ENER 4140 - Energy Management (3)
ENER 4250 - Analysis of Renewable Energy Systems (3)
ENER 4275 - Air Conditioning Systems (3)
ETCE 3163 - Structural Analysis and Design I (3)
ETCE 3264 - Structural Analysis (3)

ETCE 3271 - Building Systems (3)
ETFS 3103 - Fire Dynamics (3)
ETFS 3113 - Fire Safety in the Built Environment (3) (W)
ETFS 3123 - Industrial Hazards and Electricity (3)
ETGR 2230 - Occupational Safety (3)
ETGR 4272 - Engineering Analysis IV (3)
ETGR 4301 - Environmental Pollution Control (3)
ETGR 4302 - Industrial Hygiene (3)
ETGR 4303 - Applied Ergonomics and Human Factors (3)
ETME 3223 - Machine Design II (3)
OPER 3100 - Operations Management (3)
SEGR 4961 - Introduction to Energy Systems (3)
SEGR 4962 - Energy Markets (3)
STAT 1220 - Elements of Statistics I (BUSN) (3)

Degree Total = 120 Credit Hours

Grade Requirements

The following courses must be completed with a grade of C or above: ETGR 2272, MATH 1103, MATH 1121 or ETGR 2171, PHYS 1101, PHYS 1101L, PHYS 1102, PHYS 1102L, ETGR 1100L, ETGR 1101, ETGR 2101, ETME 1111, and ETME 1112.

Degree Requirements (2+2-Year Program)

The BSET in Mechanical Engineering Technology program consists of 120 credit hours, which may include up to 61 credit hours for approved courses completed in an approved A.A.S. degree.

General Education Courses (6 credit hours)

Students must take two approved courses from the LBST 2XXX series. For further details on required LBST courses, refer to the General Education Program.

Mathematics and Science Foundation Courses (3 credit hours)

Select one of the following:
ETGR 3171 - Engineering Analysis III (3)
ETGR 4272 - Engineering Analysis IV (3)

Major Courses (37 credit hours)

ELET 2241 - Instrumentation and Controls (3)
ELET 2241L - Instrumentation Laboratory (1) (W)
ETGR 3222 - Engineering Economics (3)
ETGR 3295 - Multidisciplinary Professional Development (1)
ETGR 4100 - Capstone Design Project I (2) (0, W)
ETGR 4200 - Capstone Design Project II (2) (0, W)
ETME 3100 - Junior Design Practicum (2)
ETME 3100L - Junior Design Practicum Lab (1)
ETME 3113 - Dynamics (3)
ETME 3123 - Strength of Materials (3)
ETME 3133 - Fluid Mechanics (3)
ETME 3143 - Thermodynamics (3)
ETME 3150 - Applied CAD Modeling and Simulation (3)
ETME 3213 - Machine Design I (3)
ETME 4244 - Applied Heat Transfer (3)

Elective Lab Course (1 credit hour)

Select one of the following:
ETME 3123L - Stress Analysis Laboratory (1) (W)
ETME 4244L - Thermal Fluids Laboratory (1) (W)

Restricted Elective Courses (12 credit hours)

Select at least one ETME or ENER course:
ETME 3223 - Machine Design II (3)
ENER 4140 - Energy Management (3)
ENER 4250 - Analysis of Renewable Energy Systems (3)
ENER 4275 - Air Conditioning Systems (3)

Select no more than three of the following:
CMET 3224 - Construction Project Administration (3)
ELET 1102 - C Programming (3)
ELET 1231 - Digital Circuits (3)
ELET 2231 - Microprocessor Fundamentals (3)
ELET 3113 - Network Analysis (3)
ELET 3132 - Digital Systems (3)
ELET 3141 - Power Systems and Machines (3)
ELET 3242 - Fundamentals of Control Systems (3)
ETCE 3163 - Structural Analysis and Design I (3)
ETCE 3264 - Structural Analysis (3)
ETCE 3271 - Building Systems (3)
ETFS 3103 - Fire Dynamics (3)
ETFS 3113 - Fire Safety in the Built Environment (3) (W)
ETFS 3123 - Industrial Hazards and Electricity (3)
ETGR 2230 - Occupational Safety (3)
ETGR 4272 - Engineering Analysis IV (3)
ETGR 4301 - Environmental Pollution Control (3)
ETGR 4302 - Industrial Hygiene (3)
ETGR 4303 - Applied Ergonomics and Human Factors (3)
OPER 3100 - Operations Management (3)
SEGR 4961 - Introduction to Energy Systems (3)
SEGR 4962 - Energy Markets (3)
STAT 1220 - Elements of Statistics I (BUSN) (3)

Degree Total = 120 Credit Hours

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

Freshmen

Applicants entering as Freshmen must meet the general University admission requirements.

Transfers

Transfer admission into the department occurs in one of two situations:

1) Transfer applicants not having 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:
   a) 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, Computer, Controls, Design and Drafting, Electrical, Electronics, Environmental, Fire Protection, Fire Science, Industrial, Instrumentation, Manufacturing, Mechanical, Optics, Robotics, Surveying or similar title with curriculum acceptable to the department. A minimum GPA of 2.5 (out of 4.0) in the AAS degree is required.

b) Have completed satisfactorily the prerequisite background courses for the option they plan to enter (missing background courses may be taken at UNC Charlotte).

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 making application for the program. For more information, contact the College of Engineering Office of Student Development and Success or the University Career Center.

Course Requirements

Course requirements correspond to the mode of admission for each student as outlined hereafter.

- **Entering Freshmen:** Students admitted as Freshmen 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 that they were admitted into 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)
- Differential and Integral Calculus (6 credit hours)
- Physics I and II (each with lab) (8 credit hours)
- Chemistry (3 credit hours)
- Technical Courses in Major Area (up to 41 credit hours)
  - Parametric Solid Modeling
  - Manufacturing Processes
  - Metallurgy or Engineering Materials
  - Statics
  - Kinematics or Mechanisms
  - DC Circuits
  - Machine Shop Practices with Lab

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.

Academic Progression Requirements

Freshman Year Requirements

All new freshmen, including early college and dual enrolled students that have college credit prior to high school graduation, 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.
- Pass all courses within three attempts, including withdrawing from a course with a grade of W.
- Earn a 2.00 cumulative GPA upon completion of the Freshman curriculum.

Sophomore through Senior Year Requirements

- Maintain an overall GPA of 2.000 in the University.
- Maintain a major cumulative GPA of 2.000 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 a course in their 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 reenroll 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. Readmission to the College of Engineering after a University suspension is not automatic. An application for readmission must be made by the student and approved by the College/department. Students who are readmitted 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.

Degree Requirements

The BSET in Mechanical Engineering Technology with Concentration in Applied Energy program consists of 120 credit hours.

General Education Courses (18 credit hours)
For details on required LBST, UWRT, and Social Sciences courses, refer to the General Education Program.

Mathematics and Science Foundation Courses (26 credit hours)
CHEM 1251 General Chemistry I (3)
ETGR 2272 - Engineering Analysis II (3)
ETGR 3171 - Engineering Analysis III (3)
or ETGR 4272 - Engineering Analysis IV (3)
MATH 1103 - Precalculus Mathematics for Science and Engineering (3)
MATH 1121 - Calculus for Engineering Technology (3)
or ETGR 2171 - Engineering Analysis I (3)
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)
STAT 1220 - Elements of Statistics I (BUSN) (3)

Major Courses (63 credit hours)
ELET 2241 - Instrumentation and Controls (3)
ELET 2241L - Instrumentation Laboratory (1) (W)
ETGR 1100L - Engineering Technology Computer Applications Lab (1)
ETGR 1101 - Introduction to Engineering Technology and Construction Management (1)
ETGR 2101 - Applied Mechanics I (3)
ETGR 2106 - Electronic Circuits and Devices (3)
ETGR 3222 - Engineering Economics (3)
ETGR 3295 - Multidisciplinary Professional Development (1)
ETGR 4100 - Capstone Design Project I (2) (O, W)
ETGR 4200 - Capstone Design Project II (2) (O, W)
ETME 1111 - CAD Modeling I (3)
ETME 1112 - CAD Modeling II (3)
ETME 2100 - Sophomore Design Practicum (2)
ETME 2100L - Sophomore Design Practicum Lab (1)
ETME 2102 - Mechanisms (3)
ETME 2130 - Applied Materials and Manufacturing I (3)
ETME 2131 - Applied Materials and Manufacturing II (3)
ETME 3100 - Junior Design Practicum (2)
ETME 3100L - Junior Design Practicum Lab (1)
ETME 3113 - Dynamics (3)
ETME 3123 - Strength of Materials (3)
ETME 3133 - Fluid Mechanics (3)
ETME 3143 - Thermodynamics (3)
ETME 3150 - Applied CAD Modeling and Simulation (3)
ETME 3213 - Machine Design I (3)
ETME 4244 - Applied Heat Transfer (3)

Elective Lab Course (1 credit hour)
Select one of the following:
ETME 3123L - Stress Analysis Laboratory (1) (W)
ETME 4244L - Thermal Fluids Laboratory (1) (W)

Concentration Courses (12 credit hours)
Select four of the following:
ELET 3141 - Power Systems and Machines (3)
ENER 4000 - Special Topics (1 to 4)
ENER 4140 - Energy Management (3)
ENER 4250 - Analysis of Renewable Energy Systems (3)
ENER 4275 - Air Conditioning Systems (3)
SEGR 4961 - Introduction to Energy Systems (3) *(with approval)*
SEGR 4962 - Energy Markets (3) *(with approval)*

Degree Total = 120 Credit Hours

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 freshmen or as transfer students.

Freshmen
Applicants entering as Freshmen must meet the general University admission requirements.

Transfers
Transfer admission into the department occurs in one of two situations:

3) Transfer applicants not having the Associate in Applied Science (AAS) degree or its equivalent must meet general University admission requirements.
4) Transfer applicants with an Associate of Applied Science (AAS) degree must:
   a) 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, Computer, Controls, Design and Drafting, Electrical, Electronics, Environmental, Fire Protection, Fire Science, Industrial, Instrumentation, Manufacturing, Mechanical, Optics, Robotics, Surveying or similar title with curriculum acceptable to the department. A minimum GPA of 2.5 (out of 4.0) in the AAS degree is

required.

b) Have completed satisfactorily the prerequisite background courses for the option they plan to enter (missing background courses may be taken at UNC Charlotte).

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 making application for the program. For more information, contact the College of Engineering Office of Student Development and Success or the University Career Center.

Course Requirements
Course requirements correspond to the mode of admission for each student as outlined hereafter.

- **Entering Freshmen:** Students admitted as Freshmen 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 that they were admitted into 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)
- Differential and Integral Calculus (6 credit hours)
- Physics I and II (each with lab) (8 credit hours)
- Chemistry (3 credit hours)
- Technical Courses in Major Area (up to 41 credit hours)
  - Parametric Solid Modeling
  - Manufacturing Processes
  - Metallurgy or Engineering Materials
  - Statics
  - Kinematics or Mechanisms
  - DC Circuits
  - Machine Shop Practices with Lab

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.

Academic Progression Requirements

Freshman Year Requirements
All new freshmen, including early college and dual enrolled students that have college credit prior to high school graduation, 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.
- Pass all courses within three attempts, including withdrawing from a course with a grade of W.
- Earn a 2.00 cumulative GPA upon completion of the Freshman curriculum.

Sophomore through Senior Year Requirements

- Maintain an overall GPA of 2.000 in the University.
- Maintain a major cumulative GPA of 2.000 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 a course in their 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 reenroll 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. Readmission to the College of Engineering after a University suspension is not automatic. An application for readmission must be made by the

student and approved by the College/department. Students who are readmitted 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.

Degree Requirements

The BSET in Mechanical Engineering Technology with Concentration in Electromechanical Systems program consists of 120 credit hours.

General Education Courses (18 credit hours)
For details on required LBST, UWRT, and Social Sciences courses, refer to the General Education Program.

Mathematics and Science Foundation Courses (26 credit hours)
CHEM 1251 - General Chemistry I (3)
ETGR 2272 - Engineering Analysis II (3)
ETGR 3171 - Engineering Analysis III (3)
or ETGR 4272 - Engineering Analysis IV (3)
MATH 1103 - Precalculus Mathematics for Science and Engineering (3)
MATH 1121 - Calculus for Engineering Technology (3)
or ETGR 2171 - Engineering Analysis I (3)
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)
STAT 1220 - Elements of Statistics I (BUSN) (3)

Major Courses (63 credit hours)
ELET 2241 - Instrumentation and Controls (3)
ELET 2241L - Instrumentation Laboratory (1) (W)
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 2106 - Electronic Circuits and Devices (3)
ETGR 3222 - Engineering Economics (3)
ETGR 3295 - Multidisciplinary Professional Development (1)
ETGR 4100 - Capstone Design Project I (2) (O,W)
ETGR 4200 - Capstone Design Project II (2) (O,W)
ETME 1111 - CAD Modeling I (3)
ETME 1112 - CAD Modeling II (3)
ETME 2100 - Sophomore Design Practicum (2)
ETME 2100L - Sophomore Design Practicum Laboratory (1)
ETME 2102 - Mechanisms (3)
ETME 2130 - Applied Materials and Manufacturing I (3)
ETME 2131 - Applied Materials and Manufacturing II (3)
ETME 3100 - Junior Design Practicum (3)
ETME 3100L - Junior Design Practicum Laboratory (1)
ETME 3113 - Dynamics (3)
ETME 3123 - Strength of Materials (3)
ETME 3133 - Fluid Mechanics (3)
ETME 3143 - Thermodynamics (3)
ETME 3150 - Applied CAD Modeling and Simulation (3)
ETME 3213 - Machine Design I (3)
ETME 4244 - Applied Heat Transfer (3)

Elective Lab Course (1 credit hour)
Select one of the following:
ETME 3123L - Stress Analysis Laboratory (1) (W)
ETME 4244L - Thermal Fluids Laboratory (1) (W)

Concentration Courses (12 credit hours)
In addition to ELET 2241 taken above, select three of the following:
ELET 1102 - C Programming (3)
ELET 1231 - Digital Circuits (3)
ELET 2231 - Microprocessor Fundamentals (3)
ELET 2241 - Instrumentation and Controls (3)
ELET 3113 - Network Analysis (3)
ELET 3132 - Digital Systems (3)
ELET 3141 - Power Systems and Machines (3)
ELET 3242 - Fundamentals of Control Systems (3)
ENER 4290 - Advanced Instrumentation and Controls (3)

Degree Total = 120 Credit Hours

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

- 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) *(this requirement is waived for UNC Charlotte students currently enrolled in an engineering technology, construction management, or engineering degree program)*
- 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
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree

Double-Counted Courses

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).

More Information

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)
  - Biomedical Engineering
  - Energy Engineering
  - Motorsports Engineering
- B.S. in Mechanical Engineering and Physics Dual Degree
- 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.

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, and Motorsports Engineering) 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 will apply their knowledge to areas beyond their coursework, enabling them to succeed as engineers in: society, graduate or professional studies, and lifelong learning.
- Our graduates will contribute to safety and make ethical engineering and societal decisions.
- Our graduates will successfully contribute to the design, manufacture, implementation and management of engineering systems.
- Our graduates, equipped with strong engineering fundamentals, will have the flexibility and competence to adapt in a changing world.
- Our graduates will be innovative and able to develop and communicate ideas and solutions, either 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

Freshmen

Freshman admission is competitive. Based upon an overall evaluation of high school record with particular emphasis on advanced courses in math and science and SAT or ACT scores, freshmen may be admitted directly to an engineering major or as engineering undecided.

- *Minimum GPA:* n/a
- *Pre-Major/Prerequisite Courses:* Freshmen MUST present a pre-calculus equivalent course, a math course during the high school senior year (grade 12/13) or math intensive science course such as physics or chemistry if no math courses are available, with no grades below C in any math courses. Students with AP test scores of at least 3 on AP Calculus AB or BC or early college high school students who present transfer credit for calculus equivalent to MATH 1241 or higher are exempted from having a math course in the senior year.
- *Other:* Minimum SAT-Math score of 570 or ACT-Math subscore of 23
- *Declaration of Major:* Students may declare the major at time of admission or at any time if in good standing with the College and University.

Transfers

All transfer students will be admitted to the lower division of a department, and evaluation of transfer credits follows the North Carolina articulation agreements. 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.

- *Minimum GPA:* 2.5 (3.0 for Mechanical Engineering)
- *Pre-Major/Prerequisite Courses:* Calculus I course (with grade of C or above) equivalent to MATH 1241
- *Transferable Credit Hours:* 24

Academic Progression Requirements

Freshman Year Requirements

All new freshmen, early college students, and transfer students with only one year 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 2.250 GPA in the first semester.
- Complete all non-elective courses in the Freshman year curriculum with grades of C or above.
- Pass all courses within three attempts, including withdrawing from a course with a grade of W.
- Complete the Freshman curriculum within three regular semesters, if starting in the required first semester mathematics course.
- Earn a 2.500 cumulative GPA upon completion of the Freshman curriculum.

Sophomore through Senior Year Requirements

- Maintain an overall GPA of 2.000 in the University.
- Maintain a major cumulative GPA of 2.000 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 two 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 reenroll 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. Readmission to the College of Engineering after a University suspension is not automatic. An application for readmission must be made by the student and approved by the College/department. Students who are readmitted 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.

Degree Requirements

General Education Courses (18-19 credit hours)

For details on required LBST and UWRT courses, refer to the General Education program. Students in this major should plan on taking the following courses that meet general education and major requirements.

ECON 2101 - Principles of Economics – Macro (3)
or ECON 2102 - Principles of Economics – Micro (3)

Foundation Courses (24 credit hours)

MEGR 1100 - Foundations of Math and Science for Engineers (4)
or CHEM 1251 - General Chemistry I (3)
and CHEM 1251L - General Chemistry I Lab (1)
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 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)

Major Courses (57 credit hours)

ECGR 2161 - Basic Electrical Engineering I (3)
ENGR 1201 - Introduction to Engineering Practices and Principles I (2)
ENGR 1202 - Introduction to Engineering Practices and Principles II (2)

ENGR 3295 - Multidisciplinary Professional Development (1)
MEGR 2141 - Engineering Mechanics I (3)
MEGR 2144 - Introduction to Solid Mechanics (3)
MEGR 2156 - Design Projects I Lab (2)
MEGR 2180 - Manufacturing Systems (3)
MEGR 2240 - Computational Methods for Engineers (3)
MEGR 3111 - Thermodynamics I (3)
MEGR 3112 - Thermodynamics II (3)
MEGR 3114 - Fluid Mechanics (3)
MEGR 3116 - Introduction to Heat Transfer (3)
MEGR 3121 - Dynamic Systems I (3)
MEGR 3122 - Dynamic Systems II (3)
MEGR 3152 - Mechanics and Materials Lab (2) (W)
MEGR 3156 - Design Project Lab II (2)
MEGR 3161 - Introduction to Engineering Materials (3)
MEGR 3171 - Introduction to Measurements and Instrumentation (2)
MEGR 3171L - Instrumentation Lab (2) (W)
MEGR 3251 - Thermals/Fluids Lab (2) (W)
MEGR 3255 - Senior Design I (2)
MEGR 3256 - Senior Design II (2) (O)

Restricted Elective Courses (21 credit hours)

Design Elective Course (3 credit hours)

Select one of the following:
MEGR 3216 - Thermal/Fluid Design (3)
MEGR 3221 - Machine Analysis and Design I (3)

Note: Students are required to satisfy the Design Elective with either MEGR 3216 or MEGR 3221. Students may take MEGR 3216 and MEGR 3221 in order to satisfy the Design Elective and one Technical Elective (in which case MEGR 3216 satisfies the Design Elective and MEGR 3221 satisfies a Technical Elective or Concentration Elective for any concentration).

Science Elective Course (3 credit hours)

Select one of the following:
BIOL 1110 - Principles of Biology I (3)
CHEM 1252 - General Chemistry II (3)
GEOL 1200 - Physical Geology (3)
PHYS 1130 - Introduction to Astronomy (3)

Math Elective Course (3 credit hours)

Select one of the following options:

Option 1:
STAT 3128 - Probability and Statistics for Engineers (3)

Option 2:
MEGR 3282 - Statistical Process Control and Metrology (3) *(also counts as one Technical Elective)*
and
MATH 2164 - Matrices and Linear Algebra (3)
or MATH 3171 - Applied Mathematics (3) *(may count as a Math Elective or a Technical Elective, but not both)*

Technical Elective Courses (12 credit hours)

Select four of the following. At least three of the four must be MEGR courses.
MEGR 3090 - Special Topics in Mechanical Engineering (3) *(if the topic is relevant)*
MEGR 3092 - Special Topics in Motorsports Engineering (3) *(if the topic is relevant)*
MEGR 3094 - Special Topics in Energy Engineering (3) *(if the topic is relevant)*
MEGR 3097 - Special Topics in Biomedical Engineering (3) *(if the topic is relevant)*
MEGR 3162 - Mechanical Behavior and Strengthening of Solids (3)
MEGR 3210 - Automotive Power Plants (3)
MEGR 3211 - Road Vehicle Dynamics (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 3222 - Machine Analysis and Design II (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 3240 - Advanced Automotive Powerplants (3)
MEGR 3241 - Advanced Motorsports Instrumentation (3)
MEGR 3242 - Applied Vehicle Aerodynamics (3)
MEGR 3243 - Automotive Powertrain Laboratory (3)
MEGR 3244 - Tire Mechanics (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 3282 - Statistical Process Control and Metrology (3)
MEGR 3283 - Metrology and Precision Engineering (3)
MEGR 3451 - Stationary Power Plant Systems (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 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)

BIOL 3161 - Introduction to Biotechnology (3)
MATH 3171 - Applied Mathematics (3) *(may count as a Math Elective or a Technical Elective, but not both)*
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)

Degree Total = 120 credit hours

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

Freshmen

Freshman admission is competitive. Based upon an overall evaluation of high school record with particular emphasis on advanced courses in math and science and SAT or ACT scores, freshmen may be admitted directly to an engineering major or as engineering undecided.

- *Minimum GPA:* n/a
- *Pre-Major/Prerequisite Courses:* Freshmen MUST present a pre-calculus equivalent course, a math course during the high school senior year (grade 12/13) or math intensive science course such as physics or chemistry if no math courses are available, with no grades below C in any math courses. Students with AP test scores of at least 3 on AP Calculus AB or BC or early college high school students who present transfer credit for calculus equivalent to MATH 1241 or higher are exempted from having a math course in the senior year.
- *Other:* Minimum SAT-Math score of 570 or ACT-Math subscore of 23
- *Declaration of Major:* Students may declare the major at time of admission or at any time if in good standing with the College and University.

Transfers

All transfer students will be admitted to the lower division of a department, and evaluation of transfer credits follows the North Carolina articulation agreements. 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.

- *Minimum GPA:* 2.5 (3.0 for Mechanical Engineering)
- *Pre-Major/Prerequisite Courses:* Calculus I course (with grade of C or above) equivalent to MATH 1241
- *Transferable Credit Hours:* 24

Academic Progression Requirements

Freshman Year Requirements

All new freshmen, early college students, and transfer students with only one year 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 2.250 GPA in the first semester.
- Complete all non-elective courses in the Freshman year curriculum with grades of C or above.
- Pass all courses within three attempts, including withdrawing from a course with a grade of W.
- Complete the Freshman curriculum within three regular semesters, if starting in the required first semester mathematics course.
- Earn a 2.500 cumulative GPA upon completion of the Freshman curriculum.

Sophomore through Senior Year Requirements

- Maintain an overall GPA of 2.000 in the University.
- Maintain a major cumulative GPA of 2.000 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 two 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 reenroll 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. Readmission to the College of Engineering after a University suspension is not automatic. An application for readmission must be made by the student and approved by the College/department. Students who are readmitted 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.

Additional Admission Requirements for Concentration

- *Declaration of Concentration:* Students may apply for admission to and enter the concentration during their Freshman year

Academic Progression Requirements
In order to remain in the concentration, a minimum overall GPA of 3.0 must be maintained.

Degree Requirements

A Major in Mechanical Engineering with a Concentration in Biomedical Engineering consists of a total of 121 credit hours.

General Education Courses (18-19 credit hours)
For details on required LBST and UWRT courses, refer to the General Education Program. Students in this major should plan on taking the following Social Science course that meets general education and major requirements.

ECON 2101 - Principles of Economics – Macro (3)
or ECON 2102 - Principles of Economics – Micro (3)

Foundation Courses (24 credit hours)
MEGR 1100 - Foundations of Math and Science for Engineers (4)
or CHEM 1251 - General Chemistry I (3)
and CHEM 1251L - General Chemistry I Lab (1)
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 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)

Major Courses (58 credit hours)
ECGR 2161 - Basic Electrical Engineering I (3)
ENGR 1201 - Introduction to Engineering Practices and Principles I (2)
ENGR 1202 - Introduction to Engineering Practices and Principles II (2)
ENGR 3295 - Multidisciplinary Professional Development (1)
MEGR 2141 - Engineering Mechanics I (3)
MEGR 2144 - Solid Mechanics (3)
MEGR 2156 - Design Projects Lab I (2)
MEGR 2180 - Manufacturing Systems (3)
MEGR 2240 - Computational Methods (3)
MEGR 2279 - Introduction to Biomedical Engineering (1)
MEGR 3111 - Thermodynamics I (3)
MEGR 3112 - Thermodynamics II (3)
MEGR 3114 - Fluid Mechanics (3)
MEGR 3116 - Heat Transfer (3)
MEGR 3121 - Dynamic Systems I (3)
MEGR 3122 - Dynamic Systems II (3)
MEGR 3152 - Mechanics and Materials Lab (2)
MEGR 3156 - Design Project Lab II (2)
MEGR 3161 - Engineering Materials (3)
MEGR 3171 - Measurements and Instrumentation (2)
MEGR 3171L - Instrumentation Lab (2)
MEGR 3251 - Thermal/Fluids Lab (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.*

Restricted Elective Courses (21 credit hours)
Design Elective Course (3 credit hours)
Select one of the following:
MEGR 3216 - Thermal/Fluid Design (3)
MEGR 3221 - Machine Analysis and Design I (3)

Note: Students are required to satisfy the Design Elective with either MEGR 3216 or MEGR 3221. Students may take MEGR 3216 and MEGR 3221 in order to satisfy the Design Elective and one Technical Elective (in which case MEGR 3216 satisfies the Design Elective and MEGR 3221 satisfies a Technical Elective or Concentration Elective for any concentration).

Science Elective Course (3 credit hours)
Select one of the following:
BIOL 1110 - Principles of Biology I (3)
BIOL 2120 General Biology I (3)

Math Elective Course (3 credit hours)
STAT 3128 - Probability and Statistics for Engineers (3)

Biomedical Engineering Technical Elective Courses (12 credit hours)
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

Biomedical Technical Elective Courses
MEGR 3090 - Special Topics in Mechanical Engineering (3) *(if the topic is relevant)*
MEGR 3097 - Special Topics in Biomedical Engineering (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 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)
BIOL 3161 - Introduction to Biotechnology (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 - Metrology and Precision Engineering (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)

Degree Total = 121 credit hours

Grade Requirements
In order to remain in the concentration, a minimum overall GPA of 3.0 must be maintained.

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
Freshmen
Freshman admission is competitive. Based upon an overall evaluation of high school record with particular emphasis on advanced courses in math and science and SAT or ACT scores, freshmen may be admitted directly to an engineering major or as engineering undecided.

- *Minimum GPA:* n/a
- *Pre-Major/Prerequisite Courses:* Freshmen MUST present a pre-calculus equivalent course, a math course during the high school senior year (grade 12/13) or math intensive science course such as physics or chemistry if no math courses are available, with no grades below C in any math courses. Students with AP test scores of at least 3 on AP Calculus AB or BC or early college high school students who present transfer credit for calculus equivalent to MATH 1241 or higher are exempted from having a math course in the senior year.
- *Other:* Minimum SAT-Math score of 570 or ACT-Math subscore of 23
- *Declaration of Major:* Students may declare the major at time of admission or at any time if in good standing with the College and University.

Transfers
All transfer students will be admitted to the lower division of a department, and evaluation of transfer credits follows the North Carolina articulation agreements. 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.

- *Minimum GPA:* 2.5 (3.0 for Mechanical Engineering)
- *Pre-Major/Prerequisite Courses:* Calculus I course (with grade of C or above) equivalent to MATH 1241
- *Transferable Credit Hours:* 24

Academic Progression Requirements
Freshman Year Requirements
All new freshmen, early college students, and transfer students with only one year 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 2.250 GPA in the first semester.
- Complete all non-elective courses in the Freshman year curriculum with grades of C or above.
- Pass all courses within three attempts, including withdrawing from a course with a grade of W.
- Complete the Freshman curriculum within three regular semesters, if starting in the required first semester mathematics course.
- Earn a 2.500 cumulative GPA upon completion of the Freshman curriculum.

Sophomore through Senior Year Requirements
- Maintain an overall GPA of 2.000 in the University.
- Maintain a major cumulative GPA of 2.000 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 two 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 reenroll 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. Readmission to the College of Engineering after a University suspension is not automatic. An application for readmission must be made by the student and approved by the College/department. Students who are readmitted 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.

Additional Admission Requirements for Concentration

- *Minimum GPA:* 3.0
- *Prerequisite Courses (with grades of C or above):*
  - PHYS 2101
  - PHYS 2101L
  - MATH 1242
  - ENGR 1202
  - 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

Academic Progression Requirements

In order to remain in the concentration, a minimum overall GPA of 3.0 must be maintained.

Degree Requirements

A Major in Mechanical Engineering with a Concentration in Energy Engineering consists of a total of 121 credit hours.

General Education Courses (18-19 credit hours)

For details on required LBST and UWRT courses, refer to the General Education Program. Students in this major should plan on taking the following Social Science course that meets general education and major requirements.

ECON 2101 - Principles of Economics – Macro (3)
or ECON 2102 - Principles of Economics – Micro (3)

Foundation Courses (24 credit hours)

MEGR 1100 - Foundations of Math and Science for Engineers (4)
or CHEM 1251 - General Chemistry I (3)
and CHEM 1251L - General Chemistry I Lab (1)
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 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)

Major Courses (58 credit hours)

ECGR 2161 - Basic Electrical Engineering I (3)
ENGR 1201 - Introduction to Engineering Practices and Principles I (2)
ENGR 1202 - Introduction to Engineering Practices and Principles II (2)
ENGR 3295 - Multidisciplinary Professional Development (1)
MEGR 2141 - Engineering Mechanics I (3)
MEGR 2144 - Solid Mechanics (3)
MEGR 2156 - Design Projects Lab I (2)
MEGR 2180 - Manufacturing Systems (3)
MEGR 2240 - Computational Methods (3)
MEGR 2499 - Introduction to Energy Engineering (1)
MEGR 3111 - Thermodynamics I (3)
MEGR 3112 - Thermodynamics II (3)
MEGR 3114 - Fluid Mechanics (3)
MEGR 3116 - Heat Transfer (3)
MEGR 3121 - Dynamic Systems I (3)
MEGR 3122 - Dynamic Systems II (3)
MEGR 3152 - Mechanics and Materials Lab (2)
MEGR 3156 - Design Project Lab II (2)
MEGR 3161 - Engineering Materials (3)
MEGR 3171 - Measurements and Instrumentation (2)
MEGR 3171L - Instrumentation Lab (2)
MEGR 3251 - Thermal/Fluids Lab (2)
MEGR 3455 - Energy Senior Design I (2)*
MEGR 3456 - Energy Senior Design II (2)*

**Must be an approved Energy-related project.*

Restricted Elective Courses (21 credit hours)

Design Elective Course (3 credit hours)

Select one of the following:
MEGR 3216 - Thermal/Fluid Design (3)
MEGR 3221 - Machine Analysis and Design I (3)

Note: Students are required to satisfy the Design Elective with either MEGR 3216 or MEGR 3221. Students may take MEGR 3216 and MEGR 3221 in order to satisfy the Design Elective and one Technical Elective (in which case MEGR 3216 satisfies the Design Elective and MEGR 3221 satisfies a Technical Elective or Concentration Elective for any concentration).

Science Elective Course (3 credit hours)

Select one of the following:
BIOL 1110 - Principles of Biology I (3)
CHEM 1252 - General Chemistry II (3)
GEOL 1200 - Physical Geology (3)
PHYS 1130 - Introduction to Astronomy (3)

Mathematics and Statistics Elective Course (3 credit hours)

All MEGR students are required to complete: a) a math elective and b) a course with appropriate statistics content. Two options are available:

Option 1:
STAT 3128 - Probability and Statistics for Engineers (3)

Option 2:
MEGR 3282 - Statistical Process Control and Metrology (3) (which counts as one Energy Technical Elective), and
MATH 2164 - Matrices and Linear Algebra (3)
or MATH 3171 - Applied Mathematics (3) (the math elective will not also count as a technical elective)

Energy Technical Elective Courses (12 credit hours)

Select four of the following:
MEGR 3094 - Special Topics in Energy Engineering (3) *(for offerings with three credit hours)*
MEGR 3210 - Automotive Power Plants (3)
MEGR 3214 - Refrigeration and Air/Conditioning (3)

MEGR 3221 - Machine Analysis and Design I (3) *(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 3237 - Introduction to Control Systems (3)
MEGR 3260 - Clean Coal Technology (3)
MEGR 3261 - Sustainable Energy (3)
MEGR 3262 - Turbomachinery (3)
MEGR 3282 - Statistical Process Control and Metrology (3)
MEGR 3451 - Stationary Power Plant Systems (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)

Degree Total = 121 credit hours

Grade Requirements
In order to remain in the concentration, a minimum overall GPA of 3.0 must be maintained.

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
Freshmen
Freshman admission is competitive. Based upon an overall evaluation of high school record with particular emphasis on advanced courses in math and science and SAT or ACT scores, freshmen may be admitted directly to an engineering major or as engineering undecided.

- *Minimum GPA:* n/a
- *Pre-Major/Prerequisite Courses:* Freshmen MUST present a pre-calculus equivalent course, a math course during the high school senior year (grade 12/13) or math intensive science course such as physics or chemistry if no math courses are available, with no grades below C in any math courses. Students with AP test scores of at least 3 on AP Calculus AB or BC or early college high school students who present transfer credit for calculus equivalent to MATH 1241 or higher are exempted from having a math course in the senior year.
- *Other:* Minimum SAT-Math score of 570 or ACT-Math subscore of 23
- *Declaration of Major:* Students may declare the major at time of admission or at any time if in good standing with the College and University.

Transfers
All transfer students will be admitted to the lower division of a department, and evaluation of transfer credits follows the North Carolina articulation agreements. 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.

- *Minimum GPA:* 2.5 (3.0 for Mechanical Engineering)
- *Pre-Major/Prerequisite Courses:* Calculus I course (with grade of C or above) equivalent to MATH 1241
- *Transferable Credit Hours:* 24

Academic Progression Requirements
Freshman Year Requirements
All new freshmen, early college students, and transfer students with only one year 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 2.250 GPA in the first semester.
- Complete all non-elective courses in the Freshman year curriculum with grades of C or above.
- Pass all courses within three attempts, including withdrawing from a course with a grade of W.
- Complete the Freshman curriculum within three regular semesters, if starting in the required first semester mathematics course.
- Earn a 2.500 cumulative GPA upon completion of the Freshman curriculum.

Sophomore through Senior Year Requirements
- Maintain an overall GPA of 2.000 in the University.
- Maintain a major cumulative GPA of 2.000 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 two 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 reenroll 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. Readmission to the College of Engineering after a University suspension is not automatic. An application for readmission must be made by the student and approved by the College/department. Students who are readmitted 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.

Additional Admission Requirements for Concentration

- *Minimum GPA:* 2.5
- *Prerequisite Courses (with grades of C or above):*
  - PHYS 2101
  - PHYS 2101L
  - MATH 1242
  - ENGR 1202
  - 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

Degree Requirements

A Major in Mechanical Engineering with a Concentration in Motorsports Engineering consists of a total of 121 credit hours.

General Education Courses (18-19 credit hours)

For details on required LBST and UWRT courses, refer to the General Education Program. Students in this major should plan on taking the following Social Science course that meets general education and major requirements.

ECON 2101 - Principles of Economics – Macro (3)
or ECON 2102 - Principles of Economics – Micro (3)

Foundation Courses (24 credit hours)

MEGR 1100 - Foundations of Math and Science for Engineers (4)
or CHEM 1251 - General Chemistry I (3)
and CHEM 1251L - General Chemistry I Lab (1)
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 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)

Major Courses (58 credit hours)

ECGR 2161 - Basic Electrical Engineering (3)
ENGR 1201 - Introduction to Engineering Practices and Principles I (2)
ENGR 1202 - Introduction to Engineering Practices and Principles II (2)
ENGR 3295 - Multidisciplinary Professional Development (1)
MEGR 2141 - Engineering Mechanics I (3)
MEGR 2144 - Introduction to Solid Mechanics (3)
MEGR 2156 - Design Project Lab I (2)
MEGR 2180 - Manufacturing Systems (3)
MEGR 2240 - Computational Methods (3)
MEGR 2299 - Introduction to Motorsports Engineering (1)
MEGR 3111 - Thermodynamics I (3)
MEGR 3112 - Thermodynamics II (3)
MEGR 3114 - Fluid Mechanics (3)
MEGR 3116 - Introduction to Heat Transfer (3)
MEGR 3121 - Dynamic Systems I (3)
MEGR 3122 - Dynamic Systems II (3)
MEGR 3152 - Mechanics and Materials Lab (2) (W)
MEGR 3156 - Design Project Lab II (2)
MEGR 3161 - Engineering Materials (3)
MEGR 3171 - Measurements and Instrumentation (2)
MEGR 3171L - Instrumentation Lab (2) (W)
MEGR 3251 - Thermal/Fluids Lab (2) (W)
MEGR 3355 - Motorsports Senior Design I (2)
MEGR 3356 - Motorsports Senior Design II (2)

Restricted Elective Courses (21 credit hours)

Design Elective Course (3 credit hours)

Select one of the following:
MEGR 3216 - Thermal/Fluid Design (3)
MEGR 3221 - Machine Analysis and Design I (3)

Note: Students are required to satisfy the Design Elective with either MEGR 3216 or MEGR 3221. Students may take MEGR 3216 and MEGR 3221 in order to satisfy the Design Elective and one Technical Elective (in which case MEGR 3216 satisfies the Design Elective and MEGR 3221 satisfies a Technical Elective or Concentration Elective for any concentration).

Science Elective Course (3 credit hours)

Select one of the following:
BIOL 1110 - Principles of Biology I (3)
CHEM 1252 - General Chemistry II (3)
GEOL 1200 - Physical Geology (3)
PHYS 1130 - Introduction to Astronomy (3)

Mathematics and Statistics Elective Course (3 credit hours)

All MEGR students are required to complete: a) a math elective and b) a course with appropriate statistics content. Two options are available:

Option 1:
STAT 3128 - Probability and Statistics for Engineers (3)

Option 2:
MEGR 3282 - Statistical Process Control and Metrology (3) (which counts as one Motorsports Technical Elective)
and
MATH 2164 - Matrices and Linear Algebra (3)
or MATH 3171 - Applied Mathematics (3) (the math elective will not also count as a technical elective)

Motorsports Technical Elective Courses (12 credit hours)

Select four of the following:

MEGR 3092 - Special Topics in Motorsports Engineering (3) *(for offerings with three credit hours)*
MEGR 3210 - Automotive Power Plants (3)
MEGR 3211 - Road Vehicle Dynamics (3)
MEGR 3221 - Machine Analysis and Design I (3) *(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 3237 - Introduction to Control Systems (3)
MEGR 3240 - Advanced Automotive Powerplants (3)
MEGR 3241 - Advanced Motorsports Instrumentation (3)
MEGR 3242 - Applied Vehicle Aerodynamics (3)
MEGR 3243 - Automotive Powertrain Laboratory (3)
MEGR 3244 - Tire Mechanics (3)
MEGR 3245 - Advanced Experimental Methods (3)
MEGR 3282 - Statistical Process Control and Metrology (3)
MEGR 4092 - Special Topics in Motorsports Engineering (3)
MEGR 4210 - Automotive Powerplants (3)
MEGR 4211 - Road Vehicle Dynamics (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)

Degree Total = 121 credit hours

Bachelor of Science in Mechanical Engineering and Bachelor of Science in Physics Dual Degree

The Department of Mechanical Engineering and Engineering Science and Department of Physics and Optical 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.S. in Mechanical Engineering and a B.S. in Physics dual degree.

Admission Requirements

Freshmen and Transfers

- *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
    - MATH 2241
- *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 both Physics and 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.S. in Physics under this program will be awarded at the same time as or after the B.S.M.E. The B.S. in Physics degree will not be awarded in advance of the B.S. in Mechanical Engineering degree.

Students in this dual degree program are not required to fulfill the College of Liberal Arts & Sciences foreign language requirement (see the College of Liberal Arts & Sciences section of this Catalog for additional information).

General Education Courses (18-19 credit hours)

For details on required LBST and UWRT courses, refer to the General Education program. Students in this major should plan on taking the following courses that meet general education and major requirements.

ECON 2101 - Principles of Economics – Macro (3)
or ECON 2102 - Principles of Economics – Micro (3)

Foundation Courses (24 credit hours)

MEGR 1100 - Foundations of Math and Science for Engineers (4)
or
CHEM 1251 - General Chemistry I (3)
and CHEM 1251L - General Chemistry I Lab (1)

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 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)

Major Courses (57 credit hours)

ECGR 2161 - Basic Electrical Engineering I (3)
ENGR 1201 - Introduction to Engineering Practices and Principles I (2)
ENGR 1202 - Introduction to Engineering Practices and Principles II (2)
ENGR 3295 - Multidisciplinary Professional Development (1)
MEGR 2141 - Engineering Mechanics I (3)
MEGR 2144 - Introduction to Solid Mechanics (3)
MEGR 2156 - Design Projects I Lab (2)
MEGR 2180 - Manufacturing Systems (3)
MEGR 2240 - Computational Methods for Engineers (3)
MEGR 3111 - Thermodynamics I (3)
MEGR 3112 - Thermodynamics II (3)
MEGR 3114 - Fluid Mechanics (3)
MEGR 3116 - Introduction to Heat Transfer (3)
MEGR 3121 - Dynamic Systems I (3)
MEGR 3122 - Dynamic Systems II (3)
MEGR 3152 - Mechanics and Materials Lab (2) (W)
MEGR 3156 - Design Project Lab II (2)
MEGR 3161 - Introduction to Engineering Materials (3)
MEGR 3171 - Introduction to Measurements and Instrumentation (2)
MEGR 3171L - Instrumentation Lab (2) (W)
MEGR 3251 - Thermals/Fluids Lab (2) (W)
MEGR 3255 - Senior Design I (2)
MEGR 3256 - Senior Design II (2) (O)

Restricted Elective Courses (21 credit hours)

Design Elective Course (3 credit hours)
Select one of the following:
MEGR 3216 - Thermal/Fluid Design (3)
MEGR 3221 - Machine Analysis and Design I (3)

Note: Students are required to satisfy the Design Elective with either MEGR 3216 or MEGR 3221. Students may take MEGR 3216 and MEGR 3221 in order to satisfy the Design Elective and one Technical Elective (in which case MEGR 3216 satisfies the Design Elective and MEGR 3221 satisfies a Technical Elective or Concentration Elective for any concentration).

Science Elective Course (3 credit hours)
Select one of the following:
BIOL 1110 - Principles of Biology I (3)
CHEM 1252 - General Chemistry II (3)
GEOL 1200 - Physical Geology (3)
PHYS 1130 - Introduction to Astronomy (3)

Math Elective Course (3 credit hours)
Select one of the following options:

Option 1: -
STAT 3128 - Probability and Statistics for Engineers (3)

Option 2:
MEGR 3282 - Statistical Process Control and Metrology (3) *(also counts as one Technical Elective)*
and
MATH 2164 - Matrices and Linear Algebra (3)
or MATH 3171 - Applied Mathematics (3) *(may count as a Math Elective or a Technical Elective, but not both)*

Technical Elective Courses (12 credit hours)
Select four of the following. At least three of the four must be MEGR courses.
MEGR 3090 - Special Topics in Mechanical Engineering (1 to 4) *(if the topic is relevant)*
MEGR 3092 - Special Topics in Motorsports Engineering (1 to 4) *(if the topic is relevant)*
MEGR 3094 - Special Topics in Energy Engineering (1 to 4) *(if the topic is relevant)*
MEGR 3097 - Special Topics in Biomedical Engineering (3) *(if the topic is relevant)*
MEGR 3162 - Mechanical Behavior and Strengthening of Solids (3)
MEGR 3210 - Automotive Power Plants (3)
MEGR 3211 - Road Vehicle Dynamics (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 3222 - Machine Analysis and Design II (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 3240 - Advanced Automotive Powerplants (3)
MEGR 3241 - Advanced Motorsports Instrumentation (3)
MEGR 3242 - Applied Vehicle Aerodynamics (3)
MEGR 3243 - Automotive Powertrain Laboratory (3)
MEGR 3244 - Tire Mechanics (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 3282 - Statistical Process Control and Metrology (3)
MEGR 3283 - Metrology and Precision Engineering (3)
MEGR 3451 - Stationary Power Plant Systems (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 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)

BIOL 3161 - Introduction to Biotechnology (3)
MATH 3171 - Applied Mathematics (3) *(may count as a Math Elective or a Technical Elective, but not both)*
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 (9 credit hours)
PHYS 3141 - Introduction to Modern Physics (3)
PHYS 4231 - Electromagnetic Theory I (3)
PHYS 4241 - Quantum Mechanics I (3)

Elective Physics Course (3 credit hours)
Select one of the following. PHYS 3220 is strongly suggested unless a student is also a Mathematics major or minor:
PHYS 3160 - Stellar Astrophysics (3)
PHYS 3220 - Mathematical Methods in Physics (3)
PHYS 3900 - Undergraduate Research (1 to 3)
PHYS 4110 - Introduction to Biomedical Optics (3)
PHYS 4140 - Nuclear Physics (3)
PHYS 4181 - Solid State Physics (3)
PHYS 4232 - Electromagnetic Theory II (3)
PHYS 4242 - Quantum Mechanics II (3)

PHYS 4271 - Waves and Optics (3)

Degree Total = 129-132 credit hours

Grade Requirements

Students must have a 2.0 or above GPA in PHYS courses in order to graduate. A grade of C or above is required in most PHYS courses before students can progress to the next PHYS course. Students must also have a 2.0 overall GPA in engineering courses.

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

- Completion of at least 75 earned undergraduate credit hours applicable to the B.S.M.E. degree
- Minimum 3.2 overall undergraduate GPA
- Acceptable scores on the GRE *(Exceptional undergraduate students with a cumulative GPA of 3.2 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

Continued Enrollment Requirements

- Completion of Early Entry Program Form 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

Double-Counted Courses

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).

More Information

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 Systems Engineering and Engineering Management

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 Systems Engineering and Engineering Management 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.

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 Systems Engineering and Engineering Management 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

Freshmen

Freshman admission is competitive. Based upon an overall evaluation of high school record with particular emphasis on advanced courses in math and science and SAT or ACT scores, freshmen may be admitted directly to an engineering major or as engineering undecided.

- *Minimum GPA:* n/a

- *Pre-Major/Prerequisite Courses:* Freshmen MUST present a pre-calculus equivalent course, a math course during the high school senior year (grade 12/13) or math intensive science course such as physics or chemistry if no math courses are available, with no grades below C in any math courses. Students with AP test scores of at least 3 on AP Calculus AB or BC or early college high school students who present transfer credit for calculus equivalent to MATH 1241 or higher are exempted from having a math course in the senior year.
- *Other:* Minimum SAT-Math score of 570 or ACT-Math subscore of 23
- *Declaration of Major:* Students may declare the major at time of admission or at any time if in good standing with the College and University.

Transfers

All transfer students will be admitted to the lower division of a department, and evaluation of transfer credits follows the North Carolina articulation agreements. 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.

- *Minimum GPA:* 2.5 (3.0 for Mechanical Engineering)
- *Pre-Major/Prerequisite Courses:* Calculus I course (with grade of C or above) equivalent to MATH 1241
- *Transferable Credit Hours:* 24

Academic Progression Requirements

Freshman Year Requirements

All new freshmen, early college students, and transfer students with only one year 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 2.250 GPA in the first semester.
- Complete all non-elective courses in the Freshman year curriculum with grades of C or above.
- Pass all courses within three attempts, including withdrawing from a course with a grade of W.
- Complete the Freshman curriculum within three regular semesters, if starting in the required first semester mathematics course.
- Earn a 2.500 cumulative GPA upon completion of the Freshman curriculum.

Sophomore through Senior Year Requirements

- Maintain an overall GPA of 2.000 in the University.
- Maintain a major cumulative GPA of 2.000 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 two 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 reenroll 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. Readmission to the College of Engineering after a University suspension is not automatic. An application for readmission must be made by the student and approved by the College/department. Students who are readmitted 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.

Degree Requirements

A Major in Systems Engineering leading to the BSSE degree consists of 120 credit hours.

General Education Courses (32-33 credit hours)

For details on required LBST and UWRT courses, refer to the General Education Program. Students in this major should also plan on taking the following courses that meet both general education and major requirements.

CHEM 1251 - General Chemistry I (3)
CHEM 1251L - General Chemistry I Lab (1)
ECON 2101 - Principles of Economics - Macro (3)
or ECON 2102 - Principles of Economics - Micro (3)
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 (43 credit hours)

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) (O,W)
SEGR 3201 - Operations Research I: Deterministic Models (3)
SEGR 3202 - Operations Research II: Stochastic Models (3)
SEGR 3290 - Systems Design Project I (2) (O,W)
SEGR 3291 - Systems Design Project II (2) (O,W)
SEGR 4114 - Production Control Systems (3)
SEGR 4141 - Engineering Experimental Design (3)

SEGR 4170 - Total Quality Systems (3)

Related Courses (21 credit hours)
ENGR 1201 - Introduction to Engineering Practices and Principles I (2)
ENGR 1202 - Introduction to Engineering Practices and Principles II (2)
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 2102L - Physics for Science and Engineering II Lab (1)
STAT 3128 - Probability and Statistics for Engineers (3)

Restricted Elective Courses (12 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 freshman 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)

Technical Elective Courses (9 credit hours)
BSSE students must complete 9 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. At least 6 credit hours must be taken from courses within the College of Engineering. 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 Systems Engineering and Engineering Management 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 3125 - Managerial Economics (3)
ECON 4181 - Energy and 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 3281 - Numerical Control of Manufacturing Processes (3)
MEGR 3282 - Statistical Process Control and Metrology (3)
MEGR 4127 - Introduction to Robotics (3)
MEGR 4162 - Materials Production and Process (3)

MEGR 4165 - Introduction to Nondestructive Evaluation Methods (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.

Degree Total = 120 credit hours

Grade Requirements
A minimum overall GPA of 2.0 and a GPA of 2.0 in the major are required.

Bachelor of Science in Systems Engineering (B.S.S.E.) *with Concentration in Energy Systems*

Admission Requirements
Freshmen
Freshman admission is competitive. Based upon an overall evaluation of high school record with particular emphasis on advanced courses in math and science and SAT or ACT scores, freshmen may be admitted directly to an engineering major or as engineering undecided.

- *Minimum GPA:* n/a
- *Pre-Major/Prerequisite Courses:* Freshmen MUST present a pre-calculus equivalent course, a math course during the high school senior year (grade 12/13) or math intensive science course such as physics or chemistry if no math courses are available, with no grades below C in any math courses. Students with AP test scores of at least 3 on AP Calculus AB or BC or early college high school students who present transfer credit for calculus equivalent to MATH 1241 or higher are exempted from having a math course in the senior year.
- *Other:* Minimum SAT-Math score of 570 or ACT-Math subscore of 23
- *Declaration of Major:* Students may declare the major at time of admission or at any time if in good standing with the College and University.

Transfers
All transfer students will be admitted to the lower division of a department, and evaluation of transfer credits follows the North Carolina articulation agreements. 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.

- *Minimum GPA:* 2.5 (3.0 for Mechanical Engineering)
- *Pre-Major/Prerequisite Courses:* Calculus I course (with grade of C or above) equivalent to MATH 1241
- *Transferable Credit Hours:* 24

Academic Progression Requirements
Freshman Year Requirements
All new freshmen, early college students, and transfer students with only one year 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 2.250 GPA in the first semester.
- Complete all non-elective courses in the Freshman year curriculum with grades of C or above.
- Pass all courses within three attempts, including withdrawing from a course with a grade of W.
- Complete the Freshman curriculum within three regular semesters, if starting in the required first semester mathematics course.
- Earn a 2.500 cumulative GPA upon completion of the Freshman curriculum.

Sophomore through Senior Year Requirements
- Maintain an overall GPA of 2.000 in the University.
- Maintain a major cumulative GPA of 2.000 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 two 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 reenroll 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. Readmission to the College of Engineering after a University suspension is not automatic. An application for readmission must be made by the student and approved by the College/department. Students who are readmitted 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.

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 (32-33 credit hours)

For details on required LBST and UWRT courses, refer to the General Education Program. Students in this major should also plan on taking the following courses that meet both general education and major requirements.

CHEM 1251 - General Chemistry I (3)
CHEM 1251L - General Chemistry I Lab (1)
ECON 2101 - Principles of Economics - Macro (3)
or ECON 2102 - Principles of Economics - Micro (3)
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 (43 credit hours)

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) (O, W)
SEGR 3201 - Operations Research I: Deterministic Models (3)
SEGR 3202 - Operations Research II: Stochastic Models (3)
SEGR 3290 - Systems Design Project I (2) (O, W)
SEGR 3291 - Systems Design Project II (2) (O, W)
SEGR 4114 - Production Control Systems (3)
SEGR 4141 - Engineering Experimental Design (3)
SEGR 4170 - Total Quality Systems (3)

Related Courses (21 credit hours)

ENGR 1201 - Introduction to Engineering Practices and Principles I (2)
ENGR 1202 - Introduction to Engineering Practices and Principles II (2)
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 2102L - Physics for Science and Engineering II Lab (1)
STAT 3128 - Probability and Statistics for Engineers (3)

Restricted Elective Courses (12 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 freshman 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 (9 credit hours)

BSSE students must complete 9 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. At least 6 credit hours must be taken from courses within the College of Engineering. 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 Systems Engineering and Engineering Management 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 2101 - Principles of Economics - Macro (3)
ECON 2102 - Principles of Economics - Micro (3)
ECON 3125 - Managerial Economics (3)

ECON 4181 - Energy and 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 3281 - Numerical Control of Manufacturing Processes (3)
MEGR 3282 - Statistical Process Control and Metrology (3)
MEGR 4127 - Introduction to Robotics (3)
MEGR 4162 - Materials Production and Process (3)
MEGR 4165 - Introduction to Nondestructive Evaluation Methods (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)

Degree Total = 120 credit hours

Grade Requirements
A minimum overall GPA of 2.0 and a GPA of 2.0 in the major are required.

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
- 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 3.2 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 Systems Engineering and Engineering Management and 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
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree

Double-Counted Courses

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).

More Information

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 schools/departments:

- **Department of Applied Physiology, Health, and Clinical Sciences**
- **School of Nursing**
- **Department of Public Health Sciences**
- **School of Social Work**

Degree Programs

Majors

- Bachelor of Science in Exercise Science (B.S.)
- Bachelor of Science in Health Systems Management (B.S.)
- Bachelor of Science in Neurodiagnostics and Sleep Science (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.)

Minors

- Gerontology *(see College of Liberal Arts & Sciences section)*
- Outdoor Adventure Leadership
- Public Health

Certificates

- 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 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. in Neurodiagnostics and Sleep Science
  - Honors Program
- B.S.R.T. in Respiratory Therapy
  - Honors Program
- Minor in Outdoor Adventure Leadership
- 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.

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 setting which utilizes 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

All Students

- *Minimum Prerequisite GPA*: 2.5
- *Pre-Major/Prerequisite Courses:* Completion of 36 credit hours of coursework. Grade of C or above in all Pre-Exercise Science courses. The prerequisite GPA includes the following 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
- *Other:* 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.
- *Declaration of Major:* All incoming students are initially classified as Pre- Exercise Science (PEXE) majors until above requirements 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.
- *Transferable Credit Hours:* 24

Degree Requirements

General Education Courses (37-41 credit hours)

For details on required courses, refer to the General Education program.

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 (30 credit hours)

EXER 2298 - Applied Kinesiology (3)
EXER 3260 - Nutrition for the Physically Active (3)
EXER 3280 - Exercise Physiology: Foundation and Theory (3)
EXER 3281 - Exercise Physiology: Principles and Application (3) (W)
EXER 3285 - Principles of Strength and Conditioning (3)
EXER 3286 - Exercise Testing: Foundation and Theory (3)

EXER 3287 - Exercise Testing: Principles and Applications (3) (W)
EXER 4121 - Pharmacology for the Physically Active (3)
EXER 4286 - Exercise Prescription (3) (W)
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)

Internship (9 credit hours)
EXER 4490 is taken during the last semester in the major. All required major courses (except EXER 4132) must be completed with a grade of C or above prior to the internship.

EXER 4490 - Exercise Science Internship (9)

Degree Total = 120 Credit Hours

Grade 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 (in which they earned a D, F, or W) only once, with a maximum of 2 total attempts. When a student earns a total of three grades of D, F, or W in any combination of required Pre-Exercise Science and/or Major Courses, the student cannot remain in the Exercise Science major and must change his/her major. Withdrawing from a course after the Add/Drop deadline constitutes an attempt, as does receiving any letter grade.

Honors Program
For details about the Honors Program in 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 prepares students in the principles, theories, and applications of Exercise Science. The major offers preparation for employment as Exercise Science practitioners in business and industry, healthcare agencies, hospitals, physical fitness centers, sport medicine clinics, sports performance centers, and colleges/universities or any other setting which utilizes exercise and physical activity to promote healthy active lifestyles and outcomes.

Admission Requirements
All Students
- *Minimum Prerequisite GPA:* 2.5
- *Pre-Major/Prerequisite Courses:* Completion of 36 credit hours of coursework. Grade of C or above in all Pre-Kinesiology courses. The prerequisite GPA includes the following courses:
    - EXER 2101
    - EXER 2150
    - EXER 2168
    - EXER 2168L
    - EXER 2169
    - EXER 2169L
    - CHEM 1251
    - CHEM 1251L
    - STAT 1222
- *Other:* All Pre-Kinesiology majors are subject to a Conduct Check facilitated by the Dean of Students Office. The result may impact acceptance into the Exercise Science program.
- *Declaration of Major:* Students are initially classified as Pre-Kinesiology (PKNS) majors until above requirements are met in order to apply to the upper-division Exercise Science major. Major application includes a Personal Statement to be reviewed and scored by the Exercise Science Admissions Committee using a scoring rubric.

Degree Requirements
General Education Courses (37-41 credit hours)
For details on required courses, refer to the General Education program.

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 (30 credit hours)
EXER 2298 - Applied Kinesiology (3)
EXER 3260 - Nutrition for the Physically Active (3)
EXER 3280 - Exercise Physiology: Foundation and Theory (3)
EXER 3281 - Exercise Physiology: - Principles and Application (3) (W)
EXER 3285 - Principles of Strength and Conditioning (3)
EXER 3286 - Exercise Testing: Foundation and Theory (3)
EXER 3287 - Exercise Testing: Principles and Applications (3) (O, W)
EXER 4121 - Pharmacology for the Physically Active (3)
EXER 4286 - Exercise Prescription (3) (W)
EXER 4293 - Biomechanics (3)

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation. 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

Grade Requirements
All of the required courses for the Pre-Kinesiology major and Exercise Science major must be completed with a grade of C or above. Students may repeat each required Pre-Kinesiology or Exercise Science course (in which they earned a D, F, or W) only once, with a maximum of 2 total attempts. When a student earns a total of three grades of D, F, or W in any combination of required Pre-Kinesiology and/or Exercise Science Courses, the student cannot remain in the Exercise Science major and must change their major. Withdrawing from a course after the Add/Drop deadline constitutes an attempt, as does receiving any letter grade. Students must receive a grade of C or above in all required courses in order to progress in the major.

Honors Program
For details about the Honors Program in Department of Applied Physiology, Health, and Clinical Sciences, see the Honors Programs section below.

Bachelor of Science in Exercise Science *with Concentration in Strength and Conditioning*
The Strength and Conditioning Concentration 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
Students who meet the following criteria may submit a declaration form for the Strength and Conditioning Concentration:

- Exercise Science major
- Minimum 2.5 GPA

The declaration form can be 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 (37-41 credit hours)
For details on required courses, refer to the General Education program.

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 (30 credit hours)
EXER 2298 - Applied Kinesiology (3)
EXER 3260 - Nutrition for the Physically Active (3)
EXER 3280 - Exercise Physiology: Foundation and Theory (3)
EXER 3281 - Exercise Physiology: Principles and Application (3) (W)
EXER 3285 - Principles of Strength and Conditioning (3)
EXER 3286 - Exercise Testing: Foundation and Theory (3)
EXER 3287 - Exercise Testing: Principles and Applications (3) (W)
EXER 4121 - Pharmacology for the Physically Active (3)
EXER 4286 - Exercise Prescription (3) (W)
EXER 4293 - Biomechanics (3)

Concentration Courses (25 credit hours)
Required Courses (16 credit hours)
EXER 2290 - Emergency Medical Response (3)
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)
KNES 2294 - Care and Prevention of Athletic Injuries (3)
KNES 3660 - Practitioner Seminar (1)

Internship (9 credit hours)
EXER 4490 - Exercise Science Internship (9)

Note: EXER 4490 is taken during the last semester in the major. All required major courses (except EXER 4100) must be completed with a grade of C or above prior to the internship.

Unrestricted Elective Courses (3)
As needed to complete the credit hours required for graduation.

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

Grade Requirements
Students must earn a grade of C or above in all required courses. Students may attempt each required course twice.

Honors Program
For details about the Honors Program in Department of Applied Physiology, Health, and Clinical Sciences, see the Honors Programs section below.

Bachelor of Science in Neurodiagnostics and Sleep Science

No longer accepting new applications

The Neurodiagnostics and Sleep Science (NDSS) major allows current practitioners to continue their professional development, while learning new skills in an increasingly important and rapidly expanding segment of health science.

The emphasis of the curriculum is to enhance and advance the student's professional career in neurodiagnostics and sleep sciences with additional education skills in critical thinking and creative problem solving needed for key leadership, educational, and management positions. The curriculum offers specific professional coursework in advanced methods and monitoring, program administration, and clinical outcomes evaluation. The program culminates in a capstone experience that is developed around the students' specific professional interest area.

This degree program is offered online through the Office of Distance Education and the Department of Applied Physiology, Health, and Clinical Sciences in collaboration with the Department of Allied Health Sciences at UNC Chapel Hill.

Admission Requirements

Freshmen

- *Minimum GPA:* n/a
- *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.
- *Declaration of Major:* All incoming students begin as Pre-Kinesiology and apply to upper division once eligible.

Transfers

- *Minimum GPA:* 2.0
- *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.
- *Other:* Current registration as a Registered Polysomnographic Technologist (RPSGT) or Registered Electroencephalographic Technologist (R.EEG.T) by the Board of Registration of Polysomnographic Technologists (BRPT) or the American Board of Registration of Electroencephalographic and Evoked Potential Technologists (ABRET). (Note: Students who are graduating in May, will be taking their registry exam and will have the results before classes begin in August may also apply.) Must have a degree in one of the following: Associate of Arts or Associate of Science, Associate of Applied Science in either Polysomnography, Neurodiagnostics Technology, or Respiratory Therapy, Bachelor Degree, or training in sleep technology as verified by Neurodiagnostics and Sleep Science (NDSS) classwork.
- *Declaration of Major:* All incoming students begin as Pre-Kinesiology and apply to upper division once eligible.
- *Transferable Credit Hours*: 24

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 NDSS program faculty. Applicants are competitively reviewed for admission based on their application and cumulative GPA in all college transferable coursework. 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 through May 15. Students are accepted directly into the program as a NDSS major. Applications are available from the Distance Education Office. Admission decisions are communicated in writing by the department. Applicants who are denied admission may reapply.

Degree Requirements

Transfer Credit (up to 64 credit hours)

General Education Courses (0 credit hours)

For details on required courses, refer to the General Education program. Students with an acceptable AAS degree are granted a general education waiver, with the exception of the Writing Intensive (W) and Oral Communication (O) requirements satisfied within the NDSS major.

Foundation Courses (up to 46 credit hours)

Students will receive up to 46 credit hours through credit by examination after successfully completing NDSS 3101 with a grade of C or above. The difference between the number of credits transferred through the associate degree and those earned in the major will constitute the number of hours awarded by the credit by examination procedure.



Major Courses (38 credit hours)

NDSS 3101 - Pathophysiology of Sleep, Neurological, and Related Disorders (3)
NDSS 3102 - Neurological and Sleep Diagnostic and Therapeutic Methods, and Monitoring Services (3)
NDSS 3104 - Advanced Sleep and Neurodiagnostic Clinical Procedures (3)
NDSS 3405 - Neurodiagnostics and Sleep Science Practicum (3)*
NDSS 4101 - Principles and Practice of Healthcare Education (3)
NDSS 4104 - Advanced Physiological Monitoring and Data Acquisition (3)
NDSS 4105 - Leadership in Healthcare Organizations (3)
NDSS 4406 - Neurodiagnostics and Sleep Science Internship (3)
NDSS 4107 - Neurodiagnostics and Sleep Science Capstone (6)

NURN 4201 - Information Technology: Applications in Healthcare (2)
RESP 4102 - Program Administration (3) (O)
RESP 4103 - Evidence-Based Practice in Respiratory Care (3) (W)

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

Drug Testing and Criminal Background Checks
Students in a professional program (i.e., a clinical practicum such as NDSS 3405) may be asked by a clinical facility to undergo drug testing and/or have a criminal background check before being allowed to participate in a clinical experience at that facility. Students are responsible for the cost of drug testing and criminal background checks. All NDSS students must meet the University's immunization and health status requirements.

Degree Total = 120 Credit Hours

Grade Requirements
For all required courses for the NDSS major, students must receive a grade of C or above to be considered successful.

Honors Program
For details about the Honors Program in 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

- *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
- *Other:* 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 (0 credit hours)
For details on required courses, refer to the General Education program. Students with an acceptable AAS degree are granted a general education waiver, with the exception of the Writing Intensive (W) and Oral Communication (O) requirements satisfied within the BSRT major.

Credit by Exam (12 credit hours)
Students receive 12 credits by exam for having passed the RRT exam after completion of RESP 3101.

Major Courses (38 credit hours)
RESP 3101 - Leadership Practices and Professional Writing for Respiratory Therapists (3) (W)
RESP 3102 - Extended Services in Respiratory Therapy (3)
RESP 3203 - Cardiopulmonary Pharmacotherapy I (2)
RESP 3205 - Cardiopulmonary Pharmacotherapy II (2)
RESP 3206 - Critical Care Monitoring and Mechanical Ventilation I (2)
RESP 3207 - Critical Care Monitoring and Mechanical Ventilation II (2)
RESP 4101 - Health Outcomes and Quality Assessment (3)
RESP 4102 - Department Management in the Healthcare Environment (3) (O)
RESP 4103 - Evidence-Based Practice in Respiratory Care (3) (W)
RESP 4106 - Neonatal/Pediatric Critical Care Pathophysiology (3)
or RESP 4204 - Adult Critical Care Pathophysiology (3)
RESP 4107 - Teaching Fundamentals and Clinical Education (3)

RESP 4205 - Information Technology in Respiratory Care (3)
or RESP 4206 - Health Communications: Ethical and Legal Implications (3)
RESP 4910 - Respiratory Therapy Capstone Project (6) (W)(O)

Restricted Elective Courses (6 credit hours)
Students are required to take two LBST courses unless they are able to transfer in credit from a four-year university or college, in which case those courses may be credited toward the elective courses as approved by the BSRT Program Director.

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade 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 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
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.

- 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)

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, Neurodiagnostic and Sleep Sciences, 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

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 Outdoor Adventure (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:
KNES 2237 - River Management (2)
KNES 2238 - Whitewater Kayaking (2)
KNES 2239 - Rock Climbing Management (2)
KNES 2290 - Emergency Medical Response (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 3111 - Psychology of Learning (3)*
PSYC 3130 - Social Psychology (3)*
SOCY 4263 - Sociology of Small Groups (3) (O, W)*
SOWK 2182 - Human Behavior in the Social Environment I (3)*
SOWK 2183 - Human Behavior in the Social Environment II (3)*

**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.

The ideal progression is to take the 1000-level, then 2000-level, etc.; with electives taken at any time. However, such a progression may not always be possible for students. It is highly recommended that students in the Minor confer with the Venture teaching staff when planning their personal course progression.

Minor Total = 18 Credit Hours

Grade Requirements
Students must attain an overall GPA of 3.0 in all coursework within the minor.

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
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 (9 credit hours)
DTSC 1110 - Sports Analytics (3)
EXER 3900 - Undergraduate Research (1 to 3) *(must be taken for 3 credit hours)*
EXER 4115 - Undergraduate Research Methods in Applied Physiology, Health, and Clinical Sciences (3)

Elective Course (3 credit hours)
Select one of the following:
DTSC 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)
EXER 3100 - Organization and Administration of Exercise Science (3)

Certificate Total = 12 Credit Hours

Grade 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
- 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.*

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
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree

Double-Counted Courses
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 6400

More Information
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

- 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.

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
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree

Double-Counted Courses

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.

More Information

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

- 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.

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
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree

Double-Counted Courses

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)

More Information

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

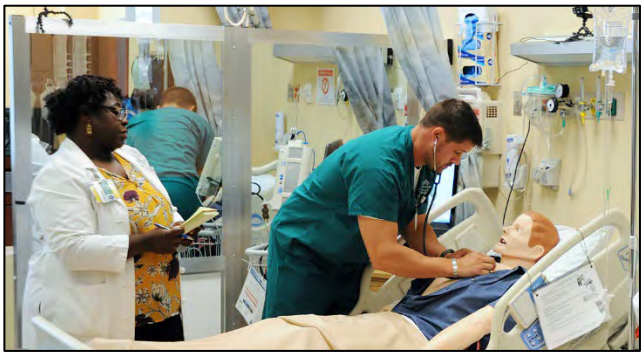
nursing.charlotte.edu

Undergraduate Programs

- B.S. in Nursing (BSN)
  - Honors Program
- B.S. in Nursing, RN-to-BSN
  - Honors Program
- 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) a traditional upper-division pre-licensure program. The BSN degree is offered at both the Upper-Division Pre-Licensure 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.



Bachelor of Science in Nursing

Admission Requirements

Freshmen

- *Minimum GPA:* n/a
- *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 Upper-Division Pre-Licensure Nursing Major. 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.

  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 have one grade of C or below for which they retook the course to earn a B or above prior to applying to Upper Division. Students earning more than one C in those prerequisite courses cannot remain in Pre-Nursing and must change their major, and are ineligible for admission to the Upper-Division Nursing 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.

  - WRDS 1103 or WRDS 1104
  - CHEM 1203, CHEM 1203L, CHEM 1204, and CHEM 1204L or CHEM 1251, CHEM 1251L, CHEM 1252, and CHEM 1252L
  - BIOL 2259
  - BIOL 2259L
  - BIOL 2273 and BIOL 2273L or EXER 2168 and EXER 2168L
  - BIOL 2274 and BIOL 2274L or EXER 2169 and EXER 2169L
  - MATH 1100
  - STAT 1220, STAT 1221, or STAT 1222
  - PSYC 1101
  - SOCY 1101 or ANTH 1101
  - NURS 2100
  - NURS 2200

- *Other:* 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

- *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 Upper-Division Pre-Licensure Nursing Major is online. Information about progression for Pre-Nursing majors and the online application process and deadlines is available on the School of Nursing website.

Transfers

- *Minimum GPA:* 3.0
- *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 Upper-Division Pre-Licensure Nursing Major 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 Nursing curriculum and the RN-to-BSN completion curriculum. Students must earn the last 25% of baccalaureate degree requirements at UNC Charlotte.

General Education Courses (12 credit hours)
Some required Prerequisite Courses (listed above) and Major Courses (listed below) meet General Education requirements. Additionally required are four LBST courses. For details on required courses, refer to the General Education Program.

Prerequisite Course Requirements (40-41 credit hours)
See above list under Admission Requirements.

Pre-Licensure Upper-Division 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) (W)
NURS 4600 - Professional Nursing: Trends, Issues, and Licensure (3)
NURS 4900 - Research in Nursing Practice (2)

Unrestricted Elective Courses (5-7 credit hours)
As needed to complete the credit hours required for graduation.

Licensure Exam Review Course
Students must complete a nursing licensure exam (NCLEX) review course prior to graduation.

Degree Total = 120 credit hours

Grade 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.

Bachelor of Science in Nursing, RN-to-BSN

Admission Requirements

Freshmen

- *Minimum GPA:* n/a

Transfers

- *Minimum GPA:* 2.0
- *Pre-Major/Prerequisite Courses*: All students admitted to the RN-to-BSN completion curriculum need to 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. 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. A grade of B or above is required in any Science prerequisite coursework. Only 1 grade of C is allowed for a 3-credit hour prerequisite course which must be re-taken for a grade of B or above prior to applying to Upper-Division.
- *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 Courses (37-41 credit hours)
For details on required courses, refer to the General Education Program. Students in this major should plan on taking the following courses that meet general education, prerequisite, and major requirements.

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)
PSYC 1101 - General Psychology (3)
SOCY 1101 - Introduction to Sociology (3)
or ANTH 1101 - Introduction to Anthropology (3)
STAT 1222 - Introduction to Statistics (3)
or STAT 1220 - Elements of Statistics I (BUSN) (3)
or STAT 1221 - Elements of Statistics I (3)

Prerequisite Courses (12 credit hours)
Prior to admission to the nursing program, students are also required to complete:

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) (O)
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) (W)
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
As needed to complete the credit hours required for graduation.

Degree Total = 120 credit hours

Grade Requirement
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.

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
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.

Certification 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)*

Other 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 on all NURS courses and maintain a preferred GPA of 3.7 or above.

All honors students must adhere to SON and Honors College policies and procedures.

Grade Requirements

- Maintain a preferred GPA of 3.7 or above
- Grades of B or above for all NURS courses
- Grade of A in NURS 4203 honors section test of change 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

- 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

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
- 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

Double-Counted Courses

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.

More Information

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 Sciences

publichealth.charlotte.edu

Undergraduate Programs

- B.S. in Health Systems Management
  - Honors Program
- B.S. in Public Health (BSPH)
- Minor in Public Health
- Early Entry: Master in Health Administration (MHA)
- Early Entry: Master in Public Health (MPH)

The Department of Public Health Sciences envisions "Healthy communities partnered with responsive population health systems." Its mission is to advance health equity and well-being in an urbanizing world. The department is a premier academic unit providing collaborative and integrated approaches to improving health and healthcare with a focus on improving health disparities among vulnerable populations.

The Public Health baccalaureate, master's, and doctoral degree programs are accredited by the Council on Education for Public Health (CEPH). The Master of Health Administration (MHA) degree program 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 and the Association of University Programs in Health Administration, and is an affiliate member of AcademyHealth.

At the undergraduate level, the department offers the Bachelor of Science in Public Health, Bachelor of Science in Health Systems Management, and a Minor in Public Health.

At the graduate level, the department offers the Master of Public Health (MPH) degree, the Master of Health Administration (MHA), and doctoral degrees (Ph.D.) in Public Health Sciences and Health Services Research. Additionally, the department collaborates in a Master of Science (M.S.) degree 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 Public Health Sciences 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

- *Minimum GPA:* 2.0
- *Declaration of Major:* Students may declare the major at any time if they are in good academic standing
- *Transferable Credit Hours:* 24

Degree Requirements

General Education Courses (37-41 credit hours)

For details on required courses, refer to the General Education program

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) (O,W)
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) (W)
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
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade 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 Health Systems Management
The Department of Public Health Sciences offers outstanding students the opportunity to earn Honors in Health Systems Management. The program requires an overall GPA of at least 3.25 for all coursework completed at UNC Charlotte and a GPA of at least 3.5 in all HSMT courses; completion of an Internship or Study Abroad; and completion of a 2-course sequence in health care analytics. Honors students in Health Systems Management are eligible to participate in Honors College courses.

Admission Requirements
Students are eligible to participate in the Honors Program during their Junior and Senior years of study. Consideration for admission to the Honors Program may be initiated by the student or by any faculty member in the Department of Public Health Sciences.

To apply for admission, students must:

1) Have completed 60 hours of coursework including at least 15 hours of coursework in the Health Systems Management major
2) Have an overall GPA of 3.25 for all coursework completed at UNC Charlotte and a GPA of 3.5 in all completed HSMT courses
3) Submit a typed statement to the Honors Program Director (maximum length of 500 words) describing:
   - Personal academic and career goals within the context of the Health Systems Management major
   - How the Honors Program in Health Systems Management in the Department of Public Health Sciences is relevant to individual short-term and long-term academic and career interests

The Department Honors Program Committee reviews the materials of all eligible student applicants on an ad hoc basis and recommends to the Department Chair those individuals who should be admitted into the program.

Students may be removed without penalty 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 Public Health Sciences Chair.

Course Requirements
HSMT 4700 - Health Systems Management Internship
HSMT 4701 - Healthcare Analytics I
HSMT 4702 - Healthcare Analytics II
HSMT 4790 - Study Abroad

Certification Requirements
Honors programs are intended for academically talented and enthusiastic students. Selected students may complete an Honors Program in Health Systems Management and have this designation noted on their transcript. To earn Honors in Health Systems Management, a student must maintain an overall GPA of 3.25 for all coursework at UNC Charlotte and a GPA in all HSMT courses of 3.5, and complete additional requirements, as follows:

1) Successful completion of either an Internship (HSMT 4700) or Study Abroad (HSMT 4790) experience
2) Completion of a 2-course sequence in healthcare analytics with a grade of A in each course (HSMT 4701 and HSMT 4702)
3) Comply with all procedural and substantial requirements established by the Honors Council and the Faculty Council for graduating with Honors in a department.

Contact the Honors Coordinator for additional information. A full description of the Health Systems Management Honors Program is available in the *Honors Advising Handbook*.

A candidate for Honors in Health Systems Management must also complete an Application for Candidacy form that is supplied by UNC Charlotte's Honors College. The form is filed during the semester before the student plans to graduate, and is usually accomplished when the student enrolls in HSMT 4702. The form and further information may be found on the Honors College website at honorscollege.charlotte.edu.

All UNC Charlotte students also have the opportunity to participate in the University Honors Program through the Honors College. A student with appropriate credentials may participate in both the University Honors Program and Honors in Health Systems Management at the same time. The Honors College also provides information to all students about prestigious external scholarships and fellowships, and provides advising for students in pre-Health professions. More information about the full range of Honors programs at UNC Charlotte may be found on the Honors

College website at honorscollege.charlotte.edu.

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 Public Health Science's vision: "Healthy communities partnered with responsive population health systems." To support the department's mission, "Advancing health equity 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, diversity, innovation, professionalism, health equity, and social justice 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 Public Health Sciences 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

- *Minimum GPA:* 2.5
- *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 Change of Major workshop in CHHS Advising Center. 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.
- *Other:* Applications for admission are accepted by the stated deadline each Spring, and include academic transcripts, application, and a statement of future career goals.

Transfers

- *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

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)*
STAT 1222 - Introduction to Statistics (3)

Pre-Public Health Foundation Courses (21 credit hours)

Prerequisite Core Courses (15 credit hours)

HLTH 2101 - Healthy Lifestyles (3)
HLTH 2102 - Foundations of Public Health (3)
HLTH 2103 - Foundations of Global Health (3)
BIOL 1110 - Principles of Biology I (3)*
or BIOL 1115 - Principles of Biology II (3)*
STAT 1222 - Introduction to Statistics (3)

**BIOL 1110L is not required for the Pre-Major, but may be required if taking BIOL 1110 or BIOL 1115 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 - Healthcare Administration (3)
HLTH 4104 - Epidemiology (3)

HLTH 4105 - Program Planning and Evaluation (3)
HLTH 4400 - Public Health Internship (3) (W)
HLTH 4600 - Public Health Capstone (3) (O, W)

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
As needed to complete the credit hours required for graduation. Study abroad courses are included.

Degree Total = 120 Credit Hours

Grade 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
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 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) (O)
ANTH 3122 - Culture, Health, and Disease (3) (W)
ANTH 3222 - Culture, Health, and Disease (3)
ANTH 4131 - Culture, Pregnancy, and Birth (3)
COMM 3115 - Health Communication (3)
ECON 3141 - Health Economics (3)
FINN 3271 - Principles of Risk Management and Insurance (3)
GRNT 3115 - Health and the Aging Process (3)
NURS 4191 - Women's Health Issues (3)
PHIL 3230 - Healthcare Ethics (3)
POLS 3125 - Healthcare Policy (3)
SOCY 4168 - Sociology of Mental Health and Illness (3) (W)
WGST 4191 - Women's Health Issues (3)
Any unrestricted HLTH 3000- or 4000-level course

Minor Total = 21 Credit Hours

Grade 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
- 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 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.

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
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree

Double-Counted Courses
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.

More Information
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

- 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

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
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree

Double-Counted Courses

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.

More Information

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*.

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.

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

- *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 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

- *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 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 (37-41 credit hours)

For details on required courses, refer to the General Education program. 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 Courses (52 to 57 credit hours)

SOWK 1101 - The Field of Social Work (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) (W)
SOWK 3202 - Social Welfare Policy (3) (W)
SOWK 3482 – Social Work Practicum I (3 or 5) (O)
SOWK 3484 – Social Work Practicum II (3 or 6) (O)
SOWK 3900 - Social Work Research I (3)
SOWK 3988 - Social Work Research II (3)
PSYC 2151 - Introduction to Abnormal Psychology (3)

Population Group Courses (12 credit hours)

Select four of the following courses examining diverse and vulnerable population groups of interest to social work. The following courses are pre-approved as population group courses. Only the courses on the list of preapproved population group courses can be used to meet this requirement.

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) (W)
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 2124 - Psychology of 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) (O)
LTAM 2116 - Contemporary Latin America (3)
LTAM 2117 - Cultures of the Caribbean (3)
LTAM 3110 - Black Families in the Diaspora (3)
PSYC 2120 - Child Psychology (3)
PSYC 2121 - Adolescent Psychology (3)
PSYC 2124 - Psychology of Adult Development and Aging (3)
PSYC 2126 - 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 3210 - Black Families in the Diaspora (3)
SOCY 3261 - Human Sexuality (3)
SOCY 4165 - Sociology of Women (3) (W)
SOCY 4168 - Sociology of Mental Health and Illness (3) (W)
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 4107 - Social Work Practice with African Americans in Urban Environments (3)
SOWK 4108 - Social Work Psychosocial Treatment (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) (W)
WGST 3140 - Domestic Violence (3)
WGST 3152 - Modern Gay America (3)

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours



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

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:

- Overall grade point average 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

Certification 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 Liberal Arts & Sciences



College of Liberal Arts & Sciences

clas.charlotte.edu

The College of Liberal Arts & Sciences (CLAS) is an academic community engaged in advancing the discovery, dissemination, and application of knowledge in the traditional areas of liberal arts and sciences and 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 sciences and for students majoring in professional degree programs. As a result, courses offered within the College of Liberal Arts & 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 Liberal Arts & Sciences consists of these departments/offices:

- Department of Aerospace Studies (Air Force ROTC)
- Department of Africana Studies
- Department of Anthropology
- Department of Biological Sciences
- Department of Chemistry
- Department of Communication Studies
- Department of Criminal Justice and Criminology
- Department of English
- Department of Geography and Earth Sciences
- Department of Global Studies
- Department of History
- Office of Interdisciplinary Studies
- Department of Languages and Culture Studies
- Department of Mathematics and Statistics
- Department of Military Science (Army ROTC)
- Department of Philosophy
- Department of Physics and Optical Science
- Department of Political Science and Public Administration
- Department of Psychological Science
- Department of Religious Studies
- Department of Sociology
- Department of Writing, Rhetoric, and Digital Studies

Degree Programs

Majors

- Bachelor of Arts in Africana Studies
- Bachelor of Arts in Anthropology
- 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 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 History
- Bachelor of Arts in International Studies
- Bachelor of Arts in Japanese
- Bachelor of Arts in Latin American Studies
- 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 Meteorology
- Bachelor of Arts in Philosophy
- Bachelor of Arts in Physics
- Bachelor of Science in Physics
- 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

- Actuarial Mathematics
- Aerospace Studies
- Africana Studies
- American Studies
- Arabic Studies
- Anthropology
- Biology
- Biotechnology
- Capitalism Studies
- Chemistry
- Children's Literature and Childhood Studies
- Chinese
- Classical Studies
- Cognitive Science
- Communication Studies
- Criminal Justice
- Diverse Literatures and Cultural Studies
- Earth Sciences
- English
- Environmental Sciences

- Film Studies
- Francophone Studies
- French
- Geography
- Geology
- German
- Gerontology
- Health & Medical Humanities
- History
- Holocaust, Genocide, and Human Rights Studies
- Humanities, Technology, and Science
- International Studies
- Japanese
- Journalism
- Latin American Studies
- Legal Studies
- Linguistics
- Mathematics
- Military Science
- Philosophy
- Physics
- Political Science
- Psychology
- Religious Studies
- Russian
- Security and Intelligence Studies
- Sociology
- Southern Studies
- Spanish
- Statistics
- Technical and Professional Writing
- Urban Studies
- Women's and Gender Studies
- Writing, Rhetoric, and Digital Studies

Undergraduate Certificates

- Actuarial Studies
- International Public Relations
- Languages and Culture Studies: Business French
- Languages and Culture Studies: Business German
- Languages and Culture Studies: Business Japanese
- Business Language: Spanish
- Languages and Culture Studies: German for Engineering
- Languages and Culture Studies: Hispanic Literary Studies
- Languages and Culture Studies: Translating French-English
- Languages and Culture Studies: Translating German-English
- Languages and Culture Studies: Translating Japanese-English
- Languages and Culture Studies: Translating Russian-English
- Languages and Culture Studies: 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 Liberal Arts & 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.

Foreign Language Requirement

All students who earn a degree within the College of Liberal Arts & 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 Spanish, French, or German)
- 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 meet the College of Liberal Arts & 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)
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 Liberal Arts & 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 Liberal Arts & 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 Liberal Arts & 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 Liberal Arts & 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 CLAS.

The advising team is dedicated to establishing relationships with all CLAS 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 through an initiative called LEADS. 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
  - Honors Program
- Minor in Africana Studies
- Early Entry Program: Graduate Certificate 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.



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 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

- *Minimum GPA:* 2.0
- *Declaration of Major*: Change of Major form accepted year-round; orientation/advising session while declaring major
- *Transferable Credit Hours:* 24

Degree Requirements

General Education Courses (37-41 credit hours)
For details on required courses, refer to the General Education Program.

Foreign Language Requirement (0-8 credit hours)
For details, refer to the College of Liberal Arts & Sciences Foreign Language Requirements at the beginning of this section.

Major Courses (15 credit hours)
AFRS 1100 - Introduction to Africana Studies (3)
AFRS 3290 - Research Methods (3)
AFRS 4000 - Senior Seminar in African Studies (3)
AFRS 4100 - African Diaspora Theory (3)

Plus one of the following:
AFRS 2156 - African Civilization (3)
AFRS 2160 - African American Experience through Civil War (3)
AFRS 2161 - African American Experience: Civil War to Civil Rights (3)

Restricted Elective Courses (15 credit hours)
Select five of the following:
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) (W)
AFRS 2207 - Pan-Africanism (3)
AFRS 2208 - Education and African Americans (3)
AFRS 2215 - Black Families in the United States (3) (W)
AFRS 2221 - Modern Africa (3)
AFRS 2225 - West African Dance and Percussion (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 3158 - Gender and African American Literature (3)
AFRS 3159 - African American Poetry (3)
AFRS 3179 - African American Political Philosophy (3)
AFRS 3190 - Political Economy of the Caribbean (3)
AFRS 3192 - African Cinema (3)
AFRS 3200 - Folklore of Africa and the African Diaspora (3)
AFRS 3210 - Black Families in the Diaspora (3)
AFRS 3218 - Racial Violence, Colonial Times to Present (3)
AFRS 3220 - The Caribbean from Slavery to Independence (3)
AFRS 3230 - Poverty and Discrimination in African Diaspora in the Modern Era (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 3264 - Business Culture and Entrepreneurship in Africa (3)
AFRS 3265 - African Economic Development (3)
AFRS 3270 - Afro-Latin American History (3) (W)
AFRS 3278 - Race in the History of Brazil (3)
AFRS 3280 - Blacks in Urban America (3)
AFRS 3328 - West African Art and Display (3)
AFRS 3395 - African American Art (3)
AFRS 3692 - Colloquium (3) (W)
AFRS 3830 - Philosophy and Race (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 4101 - Modern African Literature in English (3)
AFRS 4105 - African International Relations (3)
AFRS 4401 - Professional Internship in Africana Studies (3)
AFRS 4630 - Environmental and Public Health in Africa (3) (O)
AFRS 4640 - Environment, State, and Society in the Caribbean and Latin America (3)
AFRS 4652 - Race, Health, and the African Diaspora (3) (W)

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade Requirement
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
- *Minimum GPA:* 2.0
- *Declaration of Major*: Change of Major form accepted year-round; orientation/advising session while declaring major
- *Transferable Credit Hours:* 24

Degree Requirements
General Education Courses (37-41 credit hours)
For details on required courses, refer to the General Education Program.

Foreign Language Requirement (0-8 credit hours)
For details, refer to the College of Liberal Arts & Sciences Foreign Language Requirements at the beginning of this section.

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 4000 - Senior Seminar in African Studies (3)
AFRS 4100 - African Diaspora Theory (3)

Select one of the following:
AFRS 2156 - African Civilization (3)
AFRS 2160 - African American Experience through Civil War (3)
AFRS 2161 - African American Experience: - Civil War to Civil Rights (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:
ANTH 2126 - World Population Problems (3) (W)
ANTH 3122 - Culture, Health and Disease (3) (W)
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 2120 - Geographic Information Systems: Survey of Applications and Techniques (4)
GEOG 3215 - Environmental Planning (3) (W)
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)
NURS 4191 - Women's Health Issues (3)
or WGST 4191 - Women's Health Issues (3)
POLS 3125 - Health Care Policy (3)
SOCY 2169 - Sociology of Health and Illness (3)

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

Grade Requirement
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.

Minor in Africana Studies
The Minor in Africana Studies requires the completion of 18 credit hours of Africana Studies courses.

Minor Requirements
Required Courses (6 credit hours)
AFRS 1100 - Introduction to Africana Studies (3)
AFRS 4100 - African Diaspora Theory (3)

Elective Courses (12 credit hours)
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)

Grade 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
- 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) (0) *(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 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.

Certification 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.



Early Entry: Graduate Certificate in Africana 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

- 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

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
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree

Double-Counted Courses

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).

More Information

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 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.



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

- *Minimum GPA*: 2.0; students with a GPA below 2.0 should consult with departmental advisor
- *Declaration of Major:* Change of Major form accepted year-round, except during pre-registration periods; orientation/advising session required after declaration
- *Transferable Credit Hours:* 24 (a minimum of 12 credit hours of ANTH courses must be completed at UNC Charlotte)

Degree Requirements

General Education Courses (37-43 credit hours)

For details on required courses, refer to the General Education Program.

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)
LATN 2201 - Latin Prose (3)
PORT 2201 - Intermediate Portuguese I (3)
SPAN 2105 - Spanish Communication Skills Development I (3) (O)
SPAN 2106 - Spanish Communication Skills Development II (3) (O)
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)
GREK 1202 - Elementary Ancient Greek 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 1101 - Introduction to Anthropology (3)
ANTH 2171 - Action, Justice, and Change: An Introduction to Engaged and Applied Anthropology (3)
ANTH 3601 - Foundations of Anthropological Theory (3)
ANTH 4601 - Seminar in General Anthropology (3) (O,W)

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 2111 - Peoples of Africa (3)
ANTH 2112 - North American Indians (3)
ANTH 2113 - Cultures of Russia and East Europe (3)
ANTH 2114 - Indians of the Southeastern United States (3)
ANTH 2115 - Culture and Society in the Middle East (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) (W)
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 3116 - Cultures and Conflicts (3)
ANTH 3117 - Narratives and Conflicts (3)
ANTH 3122 - Culture, Health, and Disease (3) (W)
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 3132 - Aging and Culture (3) (W)
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 4110 - American Ethnic Cultures (3)
ANTH 4611 - Senior Seminar in Applied Anthropology (3) (O,W) (SL)
ANTH 4122 - Ethnographic Methods (3)
ANTH 4131 - Culture, Pregnancy, and Birth (3)
ANTH 4615 - Readings in Middle East Ethnography (3)
ANTH 4616 - Culture and Conflict in the Amazon (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 3155 - Ancient Latin America (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

As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade 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

- *Minimum GPA*: 2.0; students with a GPA below 2.0 should consult with departmental advisor
- *Declaration of Major:* Change of Major form accepted year-round, except during pre-registration periods; orientation/advising session required after declaration
- *Transferable Credit Hours:* 24 (a minimum of 12 credit hours of ANTH courses must be completed at UNC Charlotte)

Degree Requirements

General Education Courses (37-41 credit hours)

For details on required courses, refer to the General Education Program.

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)
LATN 2201 - Latin Prose (3)
PORT 2201 - Intermediate Portuguese I (3)
SPAN 2105 - Spanish Communication Skills Development I (3) (O)
SPAN 2106 - Spanish Communication Skills Development II (3) (O)
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)
GREK 1202 - Elementary Ancient Greek 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 1101 - Introduction to Anthropology (3)
ANTH 2171 - Action, Justice, and Change: An Introduction to Engaged and Applied Anthropology (3)
ANTH 3601 - Foundations of Anthropological Theory (3)
ANTH 4611 - Senior Seminar in Applied Anthropology (3) (O,W) (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 2111 - Peoples of Africa (3)
ANTH 2112 - North American Indians (3)
ANTH 2113 - Cultures of Russia and East Europe (3)
ANTH 2114 - Indians of the Southeastern United States (3)
ANTH 2115 - Culture and Society in the Middle East (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) (W)

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 3116 - Cultures and Conflicts (3)
ANTH 3117 - Narratives and Conflicts (3)
ANTH 3122 - Culture, Health, and Disease (3) (W)
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 3132 - Aging and Culture (3) (W)
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 4110 - American Ethnic Cultures (3)
ANTH 4122 - Ethnographic Methods (3)
ANTH 4131 - Culture, Pregnancy, and Birth (3)
ANTH 4615 - Readings in Middle East Ethnography (3)
ANTH 4616 - Culture and Conflict in the Amazon (3)
ANTH 4622 - Readings in the Anthropology of Religion (3)f

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 3155 - Ancient Latin America (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
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade Requirement
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.



Minor in Anthropology
The Minor in Anthropology requires the completion of 18 credit hours of anthropology courses.

Minor Requirements
Foundation Courses (6 credit hours)
ANTH 1101 - Introduction to Anthropology (3)
ANTH 2171 - Action, Justice, and Change: An Introduction to Engaged and Applied Anthropology (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 2111 - Peoples of Africa (3)
ANTH 2112 - North American Indians (3)
ANTH 2113 - Cultures of Russia and East Europe (3)
ANTH 2114 - Indians of the Southeastern United States (3)
ANTH 2115 - Culture and Society in the Middle East (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) (W)
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 3116 - Cultures and Conflicts (3)
ANTH 3117 - Narratives and Conflicts (3)
ANTH 3122 - Culture, Health, and Disease (3) (W)
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 3132 - Aging and Culture (3) (W)
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 4110 - American Ethnic Cultures (3)
ANTH 4122 - Ethnographic Methods (3)
ANTH 4131 - Culture, Pregnancy, and Birth (3)
ANTH 4611 - Senior Seminar in Applied Anthropology (3) (O,W) (SL)
ANTH 4615 - Readings in Middle East Ethnography (3)
ANTH 4616 - Culture and Conflict in the Amazon (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 3155 - Ancient Latin America (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

Grade 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
- 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 Chair.

Course Requirements (9 credit hours)
ANTH 4701 - Honors Research in Anthropology (3)
or ANTH 4611 - Senior Seminar in Applied Anthropology (3) (O,W) (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.

Certification Requirements
To graduate with honors in Anthropology, students must:

- Earn a minimum GPA of 3.5 in Anthropology courses
- Earn a minimum GPA of 3.2 overall
- Complete the Application to Candidacy process for graduating with honors, as directed by the Honors College

The honors notation appears on a 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

- 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

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
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree

Double-Counted Courses

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).

More Information

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 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.



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 liberal arts degree intended to provide a broad-based biological background but with enough flexibility 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

- *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 or BIOL 2130
  - CHEM 1251
  - CHEM 1251L
- *Declaration of Major:* Students are eligible to declare a Major in Biology when enrolled in the above courses.

Transfers

- *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

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 (37-41 credit hours)

For details on required courses, refer to the General Education Program. All Biology majors must take three hours of Writing Intensive (W) coursework in Biology at UNC Charlotte.

Foreign Language Requirement (0-8 credit hours)

For details, refer to the College of Liberal Arts & Sciences Foreign Language Requirements at the beginning of this section.

Major Courses (32 credit hours)

Foundation Courses (18 credit hours)

BIOL 2120 - General Biology I (3)
BIOL 2130 - General Biology II (3)
BIOL 2140L - General Biology Laboratory (2) (O,W)
BIOL 3111 - Cell Biology (3)
BIOL 3111L - Cell Biology Laboratory (1) (W)
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) (W)
BIOL 4260 - Population Genetics (3)
BIOL 4272 - Comparative Animal Physiology (3)
BIOL 4283 - Developmental Biology (3)
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) (W)
BIOL 3900 - Undergraduate Research (1 to 3)
BIOL 4121 - Biometry (4)
BIOL 4144 - Advanced Ecology (4) (W)
BIOL 4168 - Recombinant DNA Techniques (4) (W)
BIOL 4235 - Mammalogy (4)
BIOL 4242L - Biology of Birds Laboratory (1)
BIOL 4244L - Conservation Biology Laboratory (1)
BIOL 4250L - Microbiology Laboratory (1) (W)
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)
BIOL 4700 - Honors Research I (3)
BIOL 4701 - Honors Research II (3) (O,W)
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.

Related Courses (14 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)
MATH 1100 - College Algebra (3)
or MATH 1103 - Precalculus Mathematics for Science and Engineering (3)
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
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade 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
- *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 or BIOL 2130
  - CHEM 1251
  - CHEM 1251L
- *Declaration of Major:* Students are eligible to declare a Major in Biology when enrolled in the above courses.

Transfers
- *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

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 (37-41 credit hours)

For details on required courses, refer to the General Education Program. All Biology majors must take 3 credit hours of Writing Intensive (W) coursework in Biology at UNC Charlotte.

Foreign Language Requirement (0-8 credit hours)

For details, refer to the College of Liberal Arts & Sciences Foreign Language Requirements at the beginning of this section.

Major Courses (44 credit hours)

Foundation Courses (18 credit hours)

BIOL 2120 - General Biology I (3)
BIOL 2130 - General Biology II (3)
BIOL 2140L - General Biology Laboratory (2) (O,W)
BIOL 3111 - Cell Biology (3)
BIOL 3111L - Cell Biology Laboratory (1) (W)
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) (W)
BIOL 4260 - Population Genetics (3)
BIOL 4272 - Comparative Animal Physiology (3)
BIOL 4283 - Developmental Biology (3)
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) (W)
BIOL 3166L - Genetics Laboratory (1) (W)
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) (W)
BIOL 3900 - Undergraduate Research (1 to 3)
BIOL 4121 - Biometry (4)
BIOL 4144 - Advanced Ecology (4) (W)
BIOL 4168 - Recombinant DNA Techniques (4) (W)
BIOL 4235 - Mammalogy (4)
BIOL 4242L - Biology of Birds Laboratory (1)
BIOL 4244L - Conservation Biology Laboratory (1)
BIOL 4250L - Microbiology Laboratory (1) (W)
BIOL 4256L - Pathogenic Bacteriology Laboratory (1) (W)
BIOL 4257L - Microbial Physiology and Metabolism Lab (1)
BIOL 4279L - Neurobiology Laboratory (1)
BIOL 4293 - Comparative Vertebrate Anatomy (4)
BIOL 4700 - Honors Research I (3)
BIOL 4701 - Honors Research II (3) (O,W)

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.

Related Courses (22 credit hours)

CHEM 2131 - Organic Chemistry I (3)
CHEM 2131L - Organic Chemistry I Lab (1)
CHEM 2132 - Organic Chemistry I (3)
CHEM 2132L - Organic Chemistry II Lab (1)
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

As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade 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.

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)

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) (W)
BIOL 3144L - Ecology Laboratory (1) (W)
BIOL 3166L - Genetics Laboratory (1) (W)
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) (W)
BIOL 4121 - Biometry (4)
BIOL 4144 - Advanced Ecology (4) (W)
BIOL 4168 - Recombinant DNA Techniques (4) (W)
BIOL 4235 - Mammalogy (4)
BIOL 4242L - Biology of Birds Laboratory (1)
BIOL 4244L - Conservation Biology Laboratory (1)
BIOL 4250L - Microbiology Laboratory (1) (W)
BIOL 4256L - Pathogenic Bacteriology Laboratory (1) (W)
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) (W)
BIOL 3111 - Cell Biology (3)
BIOL 3161 - Introduction to Biotechnology (3)
BIOL 3166 - Genetics (3)
BIOL 3215 - Economic Botany (3) (W)
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) (W)
BIOL 4168 - Recombinant DNA Techniques (4) (W)
BIOL 4233 - Parasitology (3)
BIOL 4235 - Mammalogy (4)
BIOL 4242 - Biology of Birds (3)
BIOL 4243 - Animal Behavior (3)
BIOL 4244 - Conservation Biology (3) (W)
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 (2-6 credit hours)

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) (W)
BIOL 3144L - Ecology Laboratory (1) (W)
BIOL 3166L - Genetics Laboratory (1) (W)
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) (W)
BIOL 4121 - Biometry (4)
BIOL 4144 - Advanced Ecology (4) (W)
BIOL 4168 - Recombinant DNA Techniques (4) (W)
BIOL 4235 - Mammalogy (4)
BIOL 4242L - Biology of Birds Laboratory (1)
BIOL 4244L - Conservation Biology Laboratory (1)
BIOL 4250L - Microbiology Laboratory (1) (W)
BIOL 4256L - Pathogenic Bacteriology Laboratory (1) (W)
BIOL 4257L - Microbial Physiology and Metabolism Lab (1)
BIOL 4279L - Neurobiology Laboratory (1)
BIOL 4293 - Comparative Vertebrate Anatomy (4)

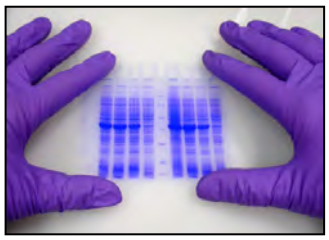
Lecture Course Above 3000-Level
Select at least one of the following:
BIOL 3000 - Special Topics in Biology (1 to 4)
BIOL 3111 - Cell Biology (3)
BIOL 3144 - Ecology (3)
BIOL 3161 - Introduction to Biotechnology (3)
BIOL 3166 - Genetics (3)
BIOL 3202 - Horticulture (3) (W)
BIOL 3215 - Economic Botany (3) (W)
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) (W)
BIOL 4168 - Recombinant DNA Techniques (4) (W)
BIOL 4233 - Parasitology (3)
BIOL 4235 - Mammalogy (4)
BIOL 4242 - Biology of Birds (3)
BIOL 4243 - Animal Behavior (3)
BIOL 4244 - Conservation Biology (3) (W)
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

Grade Requirements
A GPA of at least 2.0 in the minor is required.

Minor in Biotechnology
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
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) (O,W)

BIOL 4162 - Advanced Biotechnology I (3) (W)
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) (W)
BIOL 4163 - Advanced Biotechnology II (3)
BIOL 4168 - Recombinant DNA Techniques (4) (W)
BIOL 4171 - Cell Physiology (3)
BIOL 4199 - Molecular Biology (3)
BIOL 4244 - Conservation Biology (3) (W)
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 4167 - Structure and Mechanism in Protein Chemistry (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) (W)
BIOL 4163 - Advanced Biotechnology II (3)
BIOL 4168 - Recombinant DNA Techniques (4) (W)
BIOL 4199 - Molecular Biology (3)
BIOL 4244 - Conservation Biology (3) (W)
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 4167 - Structure and Mechanism in Protein Chemistry (3)
CHEM 4171 - Biochemical Instrumentation (4)

Minor Total = 18 Credit Hours

Grade Requirements
Students must have at least an overall GPA of 3.0 and a 3.0 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
Students are invited to participate in the program during their Junior year by the Department Honors Committee. Students must have a 3.2 overall GPA, a 3.4 GPA in BIOL courses and have completed BIOL 3111 with a grade of B or above to be eligible to apply for the Honors in Biological Sciences program. An Honors advisor and a supervisory committee are appointed for each student.

Required Courses
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) (O,W)

Certification 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
- 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
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree

Double-Counted Courses
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).

More Information
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.



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

- *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

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 (37-41 credit hours)

For details on required courses, refer to the General Education Program. 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 (1) (O,W)
CHEM 4696 - Chemistry Seminar (1) (O,W)

Foreign Language Requirement (0-8 credit hours)

For details, refer to the College of Liberal Arts & Sciences Foreign Language Requirements at the beginning of this section.

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)
or CHEM 1253L - Introduction to Modern Laboratory Methods (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) (W)
CHEM 4695 - Chemistry Seminar (1) (O, W)
CHEM 4696 - Chemistry Seminar (1) (O, W)

Restricted Elective Courses (3 credit hours)

Select from the following:
CHEM 3112 - Modern Separation Techniques (4)
CHEM 3113 - Survey of Instrumental Methods of Analysis (4)
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 4135 - Concepts and Techniques in Organic Synthesis (2)
CHEM 4165 - Principles of Biochemistry I (3)
CHEM 4165L - Principles of Biochemistry I Laboratory (1)
CHEM 4166 - Principles of Biochemistry II (3)
CHEM 4167 - Structure and Mechanism in Protein Chemistry (3)
CHEM 4171 - Biochemical Instrumentation (4)
CHEM 4175 - Physical Biochemistry (3)
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 3113 or 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

As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade and Course 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

- *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
- *Other:* 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

Degree Requirements

General Education Courses (37-43 credit hours)

For details on required courses, refer to the General Education Program. 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 (1) (O,W)
CHEM 4696 - Chemistry Seminar (1) (O,W)

Foreign Language Requirement (0-8 credit hours)

For details, refer to the College of Liberal Arts & Sciences Foreign Language Requirements at the beginning of this section. -

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) (W)
CHEM 4695 - Chemistry Seminar (1) (O, W)
CHEM 4696 - Chemistry Seminar (1) (O, W)

Restricted Elective Courses (3 credit hours)

Select one of the following:
CHEM 3112 - Modern Separation Techniques (4)
CHEM 3113 - Survey of Instrumental Methods of Analysis (4)
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 4135 - Concepts and Techniques in Organic Synthesis (2)
CHEM 4165 - Principles of Biochemistry I (3) -
CHEM 4165L - Principles of Biochemistry I Laboratory (1)
CHEM 4166 - Principles of Biochemistry II (3)
CHEM 4167 - Structure and Mechanism in Protein Chemistry (3)
CHEM 4171 - Biochemical Instrumentation (4)
CHEM 4175 - Physical Biochemistry (3)
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 courses, refer to Minor in Secondary Education program.

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

Degree Total = 120-128 Credit Hours

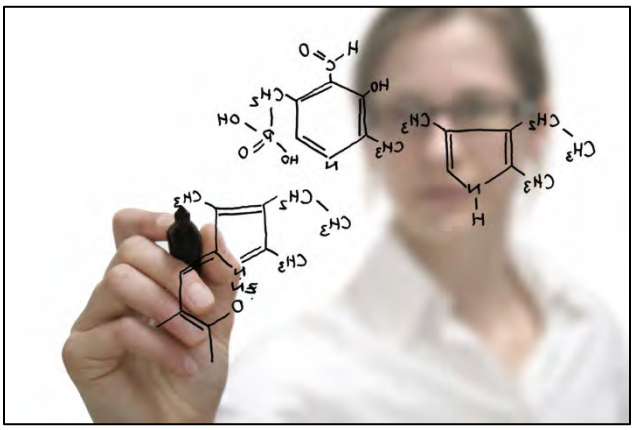
Grade and Course Progression Requirements
Students who have declared a major in Chemistry remain in good academic standing within the department if the following criteria are met:

- 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.



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
- *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
- *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

Transfers
- *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

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 (37-41 credit hours)
For details on required courses, refer to the General Education Program. 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 (1) (O,W)
CHEM 4696 - Chemistry Seminar (1) (O,W)

Foreign Language Requirement (0-8 credit hours)
For details, refer to the College of Liberal Arts & Sciences Foreign Language Requirements at the beginning of this section. -

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) -
or CHEM 1253L - Introduction to Modern Laboratory Methods (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) (W)
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 (1) (O, W)
CHEM 4696 - Chemistry Seminar (1) (O, W)
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
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade and Course 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.

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
- *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
- *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

Transfers

- *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

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 (37-41 credit hours)

For details on required courses, refer to the General Education Program. 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 (1) (O,W)
CHEM 4696 - Chemistry Seminar (1) (O,W)

Foreign Language Requirement (0-8 credit hours)

For details, refer to the College of Liberal Arts & Sciences Foreign Language Requirements at the beginning of this section.

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) -
or CHEM 1253L - Introduction to Modern Laboratory Methods (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) (W)
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 (1) (O, W)
CHEM 4696 - Chemistry Seminar (1) (O, W)
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

As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade and Course 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.

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.

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 3112 - Modern Separation Techniques (4)
CHEM 3121 - Inorganic Chemistry (3)
CHEM 3141 - Physical Chemistry I (3)
CHEM 4111 - Instrumental Analysis (4)
CHEM 4133 - Methods of Organic Structure Determination (2)
CHEM 4134 - Organic Reaction Mechanisms (2)
CHEM 4135 - Concepts and Techniques in Organic Synthesis (2)
CHEM 4165 - Principles of Biochemistry I (3)
CHEM 4185 - Chemical Fate of Pollutants (3)
CHEM 4200 - Computational Chemistry (4)

Total = 23 Credit Hours

Grade 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

Consideration for admission to the program may be initiated by the student or by any faculty member. The Honors Committee of the Department of Chemistry will formally approve admission. The student will formally enter the Honors Program at the beginning or halfway through the student's Senior year; however, students should inquire about the Honors Program prior to the end of their Junior year.

Course Requirements

CHEM 4696 - Chemistry Seminar (1) (O,W)
CHEM 4900 - Directed Undergraduate Research (1 to 4)

Certification Requirements

To obtain Honors in Chemistry, a student must successfully complete at least three hours of CHEM 4900 at the Honors level, one semester of CHEM 4696 at the Honors level, prepare and successfully defend an honors thesis based on 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.

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

- 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.

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
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree

Double-Counted Courses

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.

More Information

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 and Public Advocacy**
  - **Health Communication**
  - **Mass Media**
  - **Organizational Communication**
  - **Public Relations**
  - **Honors Program**
- **Minor in Communication Studies**
- **Minor in Journalism**
- **Undergraduate Certificate in International Public Relations**
- **Undergraduate Certificate in Leadership Studies**
- **Early Entry: M.A. in Communication Studies**

Communication Studies is one of the largest majors in the College of Liberal Arts & Sciences at UNC Charlotte. The Communication Studies discipline focuses on the theoretical, critical, and scientific study of how humans communicate with one another in all of its forms. The undergraduate program provides students with an examination of communication theory, practices, and processes in a variety of contexts, from interpersonal, group, organizational, public and electronically mediated communication.



Undergraduate Program

The undergraduate program offers concentrations in Health Communication, Mass Media, Organizational Communication, Public Advocacy, and Public Relations (with an option to add an International Public Relations certificate). Students select one of these concentrations when they have completed all prerequisite courses and are admitted into the major. 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 Public Advocacy, 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 *with Concentration in Communication and Public Advocacy*

The Communication and Public Advocacy 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

- *Minimum GPA:* 2.0
- *Pre-Major/Prerequisite Courses*: Students planning to change to or declare Communication Studies as their major must have received a minimum grade of C in the following:
  - COMM 1101
  - COMM 2100 *(may be attempted a maximum of two times)*
  - STAT 1220 or STAT 1222
- *Other:* Students who do not meet requirements for admission because of special circumstances may petition the Department of Communication Studies for acceptance into the program.
- *Declaration of Major:* Students are initially classified as Pre-Communication Studies (PCOM) majors until they meet the above requirements. Change of Major forms are accepted year-round after the student has attended a Communication Studies orientation/advising session.
- *Transferable Credit Hours*: 24

Pre-Communication Studies

Students who apply for the Communication Studies major are initially classified as Pre-Communication Studies majors until they meet the following requirements: cumulative GPA of 2.0 or above and successful (grade C or above) completion of COMM 1101, COMM 2100, and either STAT 1220 or STAT 1222. Students matriculated at UNC Charlotte and planning to change or declare Pre-Communication Studies as their major must have an 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.

General Education Courses (37-41 credit hours)
For details on required courses, refer to the General Education Program.

Foreign Language Requirement (3-4 credit hours)
Students with a Major in Communication Studies 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. Intermediate American Sign Language is also accepted. Non-native speakers of English may complete the foreign language requirement by passing WRDS 1103, WRDS 1104, or the equivalent.

Latin Alphabet Courses
FREN 2201 - Intermediate French I (3)
GERM 2201 - Intermediate German I (3)
ITLN 2201 - Intermediate Italian I (3)
LATN 2201 - Latin Prose (3)
PORT 2201 - Intermediate Portuguese I (3)
SPAN 2201 - Intermediate Spanish I (3)

Non-Latin Alphabet Courses
ARBC 1202 - Elementary Arabic II (4)
CHNS 1202 - Elementary Chinese II (4)
FARS 1202 - Elementary Farsi II (4)
GREK 1202 - Elementary Ancient Greek II (4)
JAPN 1202 - Elementary Japanese II (4)
RUSS 1202 - Elementary Russian II (4)

Major Courses (24 credit hours)
All students complete 24 credit hours of Major Courses designed to provide a thorough understanding of fundamental communication processes. The Major Courses are structured into four categories:

General Theory/Skills Courses (12 credit hours)
COMM 1101 - Public Speaking (3) (O)
COMM 2100 - Introduction to Communication Theory (3)
COMM 2101 - Introduction to Rhetorical Theory (3)
COMM 3101 - Persuasion (3)

Research Methodology Courses (6 credit hours)
COMM 3100 - Communication Research Methods (3) (W)
STAT 1222 - Introduction to Statistics (3)

Macro-Context Courses (3 credit hours)
Select one of the following:
COMM 3120 - Communication and Mass Media (3)
COMM 3130 - Communication and Public Advocacy (3)
COMM 3141 - Organizational Communication (3)

Micro-Context Courses (3 credit hours)
Select one of the following:
COMM 2103 - Argumentation and Debate (3)
COMM 2105 - Small Group Communication (3)
COMM 2107 - Interpersonal Communication (3)

Concentration Courses (12 credit hours)
Required Concentration Courses (6 credit hours)
COMM 2102 - Advanced Public Speaking (3)
or COMM 2103 - Argumentation and Debate (3)
COMM 3130 - Communication and Public Advocacy (3)

Elective Concentration Courses (6 credit hours)
Select from the following:
COMM 2102 - Advanced Public Speaking (3)***
COMM 2103 - Argumentation and Debate (3)***
COMM 3051 - Topics in Health Communication (3)
COMM 3052 - Topics in Mass Media (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 3127 - Global Media (3)
COMM 3131 - African American Oratory (3)
COMM 3403 - Debate Practicum (2)**
COMM 3880 - Independent Study (1 to 3)*
COMM 4101 - Media and the Law (3)
COMM 4410 - Professional Internship (3 or 6)*

** 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.*

Related Courses (18 credit hours)
Students in the Communication and Public Advocacy concentrations must complete 18 credit hours of related coursework, excluding any courses applied toward the Major Course requirements or Concentration requirements. Students may choose from the courses below or, with the permission of their advisor they may choose other courses to satisfy the requirement. All related coursework must be approved by the student's advisor. An approved second major or a minor may be used to satisfy this requirement.

AFRS 2215 - Black Families in the United States (3) (W)
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 3230 - Poverty and Discrimination in African Diaspora in the Modern Era (3)
COMM 3110 - Gender and Communication (3)
or WGST 3110 - Gender and Communication (3)
INTL 2100 - Introduction to Holocaust, Genocide, and Human Rights Studies (3)
INTL 2131 - Introduction to Peace, Conflict, and Identity Studies (3)
INTL 3117 - Narratives and Conflicts (3)
INTL 3132 - Peacebuilding in Divided Societies (3)
INTL 3137 - International Human Rights (3)
PHIL 1105 - Critical Thinking (3) (W)
or PHIL 1106 - Critical Thinking (3)
PHIL 3810 - Social and Political Philosophy (3)
PHIL 3220 - Aesthetics (3)
PHIL 3510 - Advanced Logic (3)
PHIL 3820 - Feminist Philosophy (3)

PHIL 3830 - Philosophy and Race (3)
POLS 3163 - Introduction to Model United Nations (3) (O,W)
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 4110 - North Carolina Student Legislature (3) (O,W)
PSYC 2126 - Introduction to the Psychology of Women and Gender (3)
PSYC 2130 - Introduction to Social Psychology (3)
PSYC 2165 - 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) (W)
SOCY 2171 - Social Problems (3)
SOCY 3110 - American Minority Groups (3)
SOCY 3143 - Social Movements (3)
SOCY 3175 - Crowds, Riots, and Disasters (3)
SOCY 3250 - Political Sociology (3)
SOCY 4111 - Social Inequality (3)
SOCY 4121 - Globalization and Development (3)

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Bachelor of Arts in Communication Studies
with Concentration in Health Communication

The Health Communication concentration is designed for students interested in studying the relationship between communication and the quality of health care received by the patients. Emphasis is placed on the promotion and maintenance of health, the prevention and treatment of illness, and the improvement of the healthcare system through effective communication.

Admission Requirements

Freshmen and Transfers

- *Minimum GPA:* 2.0
- *Pre-Major/Prerequisite Courses*: Students planning to change to or declare Communication Studies as their major must received a minimum grade of C in the following:
    - COMM 1101
    - COMM 2100 *(may be attempted a maximum of two times)*
    - STAT 1220 or STAT 1222
- *Other:* Students who do not meet requirements for admission because of special circumstances may petition the Department of Communication Studies for acceptance into the program.
- *Declaration of Major:* Students are initially classified as Pre-Communication Studies (PCOM) majors until they meet the above requirements. Change of Major forms are accepted year-round after the student has attended a Communication Studies orientation/advising session.
- *Transferable Credit Hours*: 24

Pre-Communication Studies

Students who apply for the Communication Studies major are initially classified as Pre-Communication Studies majors until they meet the following requirements: cumulative GPA of 2.0 or above and successful (grade C or above) completion of COMM 1101, COMM 2100, and either STAT 1220 or STAT 1222. Students matriculated at UNC Charlotte and planning to change or declare Pre-Communication Studies as their major must have an 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.

General Education Courses (37-41 credit hours)
For details on required courses, refer to the General Education Program.

Foreign Language Requirement (3-4 credit hours)
Students with a Major in Communication Studies 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. Intermediate American Sign Language is also accepted. Non-native speakers of English may complete the foreign language requirement by passing WRDS 1103, WRDS 1104, or the equivalent.

Latin Alphabet Courses
FREN 2201 - Intermediate French I (3)
GERM 2201 - Intermediate German I (3)
ITLN 2201 - Intermediate Italian I (3)
LATN 2201 - Latin Prose (3)
PORT 2201 - Intermediate Portuguese I (3)
SPAN 2201 - Intermediate Spanish I (3)

Non-Latin Alphabet Courses
ARBC 1202 - Elementary Arabic II (4)
CHNS 1202 - Elementary Chinese II (4)
FARS 1202 - Elementary Farsi II (4)
GREK 1202 - Elementary Ancient Greek II (4)
JAPN 1202 - Elementary Japanese II (4)
RUSS 1202 - Elementary Russian II (4)

Major Courses (24 credit hours)
All students complete 24 credit hours of Major Courses designed to provide a thorough understanding of fundamental communication processes. The Major Courses are structured into four categories:

General Theory/Skills Courses (12 credit hours)
COMM 1101 - Public Speaking (3) (O)
COMM 2100 - Introduction to Communication Theory (3)
COMM 2101 - Introduction to Rhetorical Theory (3)
COMM 3101 - Persuasion (3)

Research Methodology Courses (6 credit hours)
COMM 3100 - Communication Research Methods (3) (W)
STAT 1222 - Introduction to Statistics (3)

Macro-Context Courses (3 credit hours)
Select one of the following:
COMM 3120 - Communication and Mass Media (3)
COMM 3130 - Communication and Public Advocacy (3)
COMM 3141 - Organizational Communication (3)

Micro-Context Courses (3 credit hours)
Select one of the following:
COMM 2103 - Argumentation and Debate (3)
COMM 2105 - Small Group Communication (3)
COMM 2107 - Interpersonal Communication (3)

Concentration Courses (21 credit hours)
Required Concentration Courses (12 credit hours)
COMM 3051 - Topics in Health Communication (3)
COMM 3115 - Health Communication (3)
COMM 4115 - Seminar in Health Communication (3)
COMM 4410 - Professional Internship (3)

Elective Concentration Courses (9 credit hours)
Select from the following:
ANTH 3122 - Culture, Health, and Disease (3) (W)
ANTH 3124 - Food, Nutrition, and Culture (3)
COMM 3051 - Topics in Health Communication (3)
COMM 4410 - Professional Internship (3)*
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)
HLTH 2101 - Healthy Lifestyles (3)
NURS 4000 - Topics in Nursing (1 to 3)*
NURS 4191 - Women's Health Issues (3)
or WGST 4191 - Women's Health Issues (3)
PHIL 3230 - Healthcare Ethics (3)
PSYC 2130 - Introduction to Social Psychology (3)
PSYC 2160 - Introduction to Health Psychology (3)
SOCY 2169 - Sociology of Health and Illness (3)
SOCY 4168 - Sociology of Mental Health and Illness (3) (W)

**Requires advisor approval.*

Related Courses (9 credit hours)
Students in the Health Communication concentration must complete 9 credit hours of related coursework, excluding any courses applied to Major Course requirements or requirements within that concentration. All related coursework must be approved by the student's advisor. An approved second major or a minor may be used to satisfy this requirement.

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Bachelor of Arts in Communication Studies *with Concentration in Mass Media*

The Mass Media concentration is designed for students interested in the development and critical analysis of the media as a cultural force. Contemporary issues in media criticism are explored. Students may also receive limited exposure to media production.



Admission Requirements

Freshmen and Transfers

- *Minimum GPA:* 2.0
- *Pre-Major/Prerequisite Courses*: Students planning to change to or declare Communication Studies as their major must have received a minimum grade of C in the following:
  - COMM 1101
  - COMM 2100 *(may be attempted a maximum of two times)*
  - STAT 1220 or STAT 1222
- *Other:* Students who do not meet requirements for admission because of special circumstances may petition the Department of Communication Studies for acceptance into the program.
- *Declaration of Major:* Students are initially classified as Pre-Communication Studies (PCOM) majors until they meet the above requirements. Change of Major forms are accepted year-round after the student has attended a Communication Studies orientation/advising session.
- *Transferable Credit Hours*: 24

Pre-Communication Studies

Students who apply for the Communication Studies major are initially classified as Pre-Communication Studies majors until they meet the following requirements: cumulative GPA of 2.0 or above and successful (grade C or above) completion of COMM 1101, COMM 2100, and either STAT 1220 or STAT 1222. Students matriculated at UNC Charlotte and planning to change or declare Pre-Communication Studies as their major must have an 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.

General Education Courses (37-41 credit hours)
For details on required courses, refer to the General Education Program.

Foreign Language Requirement (3-4 credit hours)
Students with a Major in Communication Studies 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. Intermediate American Sign Language is also accepted. Non-native speakers of English may complete the foreign language requirement by passing WRDS 1103, WRDS 1104, or the equivalent.

Latin Alphabet Courses
FREN 2201 - Intermediate French I (3)
GERM 2201 - Intermediate German I (3)
ITLN 2201 - Intermediate Italian I (3)
LATN 2201 - Latin Prose (3)
PORT 2201 - Intermediate Portuguese I (3)
SPAN 2201 - Intermediate Spanish I (3)

Non-Latin Alphabet Courses
ARBC 1202 - Elementary Arabic II (4)
CHNS 1202 - Elementary Chinese II (4)
FARS 1202 - Elementary Farsi II (4)
GREK 1202 - Elementary Ancient Greek II (4)
JAPN 1202 - Elementary Japanese II (4)
RUSS 1202 - Elementary Russian II (4)

Major Courses (24 credit hours)
All students complete 24 credit hours of Major Courses designed to provide a thorough understanding of fundamental communication processes. The Major Courses are structured into four categories:

General Theory/Skills Courses (12 credit hours)
COMM 1101 - Public Speaking (3) (O)
COMM 2100 - Introduction to Communication Theory (3)
COMM 2101 - Introduction to Rhetorical Theory (3)
COMM 3101 - Persuasion (3)

Research Methodology Courses (6 credit hours)
COMM 3100 - Communication Research Methods (3) (W)
STAT 1222 - Introduction to Statistics (3)

Macro-Context Courses (3 credit hours)
Select one of the following:
COMM 3120 - Communication and Mass Media (3)
COMM 3130 - Communication and Public Advocacy (3)
COMM 3141 - Organizational Communication (3)

Micro-Context Courses (3 credit hours)
Select one of the following:
COMM 2103 - Argumentation and Debate (3)
COMM 2105 - Small Group Communication (3)
COMM 2107 - Interpersonal Communication (3)

Concentration Courses (12 credit hours)
Required Concentration Courses (6 credit hours)
COMM 3120 - Communication and Mass Media (3)
COMM 4101 - Media and the Law (3)

Elective Concentration Courses (6 credit hours)
Select from the following:
ARTH 3393 - History of Photography (3)
COMM 2120 - Black Images in the Media in the U.S. (3)
COMM 3052 - Topics in Mass Media (3)
COMM 3121 - Mass Communication and Society (3)
COMM 3125 - New Media for Communications (3)
COMM 3126/INTL 3115 - Globalization and Digital Media (3)
COMM 3127 - Global Media (3)
COMM 3880 - Independent Study (1 to 3)*
COMM 4102 - Federal Interpretation of the First Amendment (3)
COMM 4410 - Professional Internship (3)*
ENGL 2106 - Film Criticism (4)
FREN 4050 - Topics in French Film (3)
GERM 3160 - Survey of German Films (3) (O,W)
HIST 3010 - Non-Western History and Culture through Film (3)
JOUR 2160 - Introduction to Journalism (3) (W)
JOUR 3160 - Advanced News Reporting and Writing (3)
JOUR 3161 - News Editing (3)
LACS 3160 - European Cinema (3) (O,W)
POLS 3104 - Mass Media (3)
RELS 3212 - Religion, Media, and Film (3) (W)
SOCY 2112 - Popular Culture (3)

**Requires advisor approval.*

Related Courses (18 credit hours)
Students in the Mass Media concentration must complete 18 credit hours of related coursework excluding any courses applied to the Major Course requirements or Concentration requirements. Students may choose from the courses below or, with the permission of their advisor, they may select other courses to satisfy the requirement.

AFRS 3192 - African Cinema (3)
ENGL 4267 - Language and Culture in Digital Spaces (3)
FILM 2201 - Introduction to Film (3)
FILM 3050 - Topics in Film (3) (W)
FILM 3051 - Topics in Film (3)
FILM 3120 - The Fundamentals of Video/Film Production (3)
FILM 4120 - Production and Directing (3)
FILM 4220 - Film Festivals: Production and Theory (3)
ITLN 3050 - Topics in Italian (3) (W)
JAPN 3160 - Topics in Japanese Film (3) (W)
JAPN 3170 - Anime and Japanese Popular Culture (3) (W)
LTAM 3360 - Studies in Hispanic Film (3)
LTAM 3362 - Studies in US Latino/a Cinema (3) (W)
PHIL 3920 - Philosophy of Technology (3)
POLS 3128 - Politics and Film (3)
RELS 3210 - Religion and Popular Culture (3)
SPAN 3160 - Studies in Hispanic Film (3) (W)

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

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

- *Minimum GPA:* 2.0
- *Pre-Major/Prerequisite Courses*: Students planning to change to or

declare Communication Studies as their major must have received a minimum grade of C in the following:
    - COMM 1101
    - COMM 2100 *(may be attempted a maximum of two times)*
    - STAT 1220 or STAT 1222
- *Other:* Students who do not meet requirements for admission because of special circumstances may petition the Department of Communication Studies for acceptance into the program.
- *Declaration of Major:* Students are initially classified as Pre-Communication Studies (PCOM) majors until they meet the above requirements. Change of Major forms are accepted year-round after the student has attended a Communication Studies orientation/advising session.
- *Transferable Credit Hours*: 24

Pre-Communication Studies

Students who apply for the Communication Studies major are initially classified as Pre-Communication Studies majors until they meet the following requirements: cumulative GPA of 2.0 or above and successful (grade C or above) completion of COMM 1101, COMM 2100, and either STAT 1220 or STAT 1222. Students matriculated at UNC Charlotte and planning to change or declare Pre-Communication Studies as their major must have an 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.

General Education Courses (37-41 credit hours)

For details on required courses, refer to the General Education Program.

Foreign Language Requirement (3-4 credit hours)

Students with a Major in Communication Studies 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. Intermediate American Sign Language is also accepted. Non-native speakers of English may complete the foreign language requirement by passing WRDS 1103, WRDS 1104, or the equivalent.

Latin Alphabet Courses

FREN 2201 - Intermediate French I (3)
GERM 2201 - Intermediate German I (3)
ITLN 2201 - Intermediate Italian I (3)
LATN 2201 - Latin Prose (3)
PORT 2201 - Intermediate Portuguese I (3)
SPAN 2201 - Intermediate Spanish I (3)

Non-Latin Alphabet Courses

ARBC 1202 - Elementary Arabic II (4)
CHNS 1202 - Elementary Chinese II (4)
FARS 1202 - Elementary Farsi II (4)
GREK 1202 - Elementary Ancient Greek II (4)
JAPN 1202 - Elementary Japanese II (4)
RUSS 1202 - Elementary Russian II (4)

Major Courses (24 credit hours)

All students complete 24 credit hours of Major Courses designed to provide a thorough understanding of fundamental communication processes. The Major Courses are structured into four categories:

General Theory/Skills Courses (12 credit hours)

COMM 1101 - Public Speaking (3) (O)
COMM 2100 - Introduction to Communication Theory (3)
COMM 2101 - Introduction to Rhetorical Theory (3)
COMM 3101 - Persuasion (3)

Research Methodology Courses (6 credit hours)

COMM 3100 - Communication Research Methods (3) (W)
STAT 1222 - Introduction to Statistics (3)

Macro-Context Courses (3 credit hours)

Select one of the following:
COMM 3120 - Communication and Mass Media (3)
COMM 3130 - Communication and Public Advocacy (3)
COMM 3141 - Organizational Communication (3)

Micro-Context Courses (3 credit hours)

Select one of the following:
COMM 2103 - Argumentation and Debate (3)
COMM 2105 - Small Group Communication (3)
COMM 2107 - Interpersonal Communication (3)

Concentration Courses (12 credit hours)

Required Concentration Courses (9 credit hours)

COMM 3141 - Organizational Communication (3)
COMM 3142 - Applications in Organizational Communication (3)
COMM 4141 - Advanced Organizational Communication (3)

Elective Concentration Courses (3 credit hours)

Select one of the following:
ANTH 4120 - Intercultural Communication (3)
COMM 2105 - Small Group Communication (3)
COMM 2107 - Interpersonal Communication (3)
COMM 3054 - Topics in Organizational Communication (3)
COMM 3160 - Business Communications (3)
COMM 3880 - Independent Study (1 to 3)*
COMM 4410 - Professional Internship (3)*
ENGL 2116 - Introduction to Technical Communication (3) (W)
PSYC 2171 - Introduction to Industrial/Organizational Psychology (3)
PSYC 3114 - Motivation (3)
SOCY 4112 - Sociology of Work (3)

**Requires advisor approval.*

Related Courses (18 credit hours)

Students in the Organizational Communication concentration must complete 18 credit hours of related coursework excluding any courses applied to the Major Course requirements or Concentration requirements. Students may choose from the courses below or, with the permission of their advisor they may select other courses to satisfy the requirement. All related coursework must be approved by the student's advisor. An approved second major or a minor may be used to satisfy this requirement.

AFRS 3264 - Business Culture and Entrepreneurship in Africa (3)
COMM 3110 - Gender and Communication (3)

or WGST 3110 - Gender and Communication (3)
JAPN 3130 - Business and Culture in Japan (3)
PSYC 2126 - Introduction to the Psychology of Women and Gender (3)
PSYC 2130 - Introduction to Social Psychology (3)
PSYC 2137 - Introduction to Positive Psychology (3)
PSYC 2155 - Psychological Approaches to Diversity (3)
PSYC 3172 - Psychology of Personnel: Employee Selection and Classification (3)
PSYC 3173 - Psychological Bases of Training Programs (3)
SOCY 2115 - Introduction to Organizations (3)
SOCY 2161 - Sociological Social Psychology (3)
SOCY 2163 - Sociology of Gender (3) (W)
SOCY 3110 - American Minority Groups (3)
SOCY 3125 - Older Worker and Retirement (3)
SOCY 4115 - Organizational Sociology (3)
SOCY 4116 - Sociology of Economic Life (3)
SPAN 3029 - Cultural Dimension of Doing Business with Spanish-Speaking Countries (3)

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

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. Students examine both the theory and practice of public relations.

Admission Requirements

Freshmen and Transfers

- *Minimum GPA:* 2.0
- *Pre-Major/Prerequisite Courses*: Students planning to change to or declare Communication Studies as their major must have received a minimum grade of C in the following:
    - COMM 1101
    - COMM 2100 *(may be attempted a maximum of two times)*
    - STAT 1220 or STAT 1222
- *Other:* Students who do not meet requirements for admission because of special circumstances may petition the Department of Communication Studies for acceptance into the program.
- *Declaration of Major:* Students are initially classified as Pre-Communication Studies (PCOM) majors until they meet the above requirements. Change of Major forms are accepted year-round after the student has attended a Communication Studies orientation/advising session.
- *Transferable Credit Hours*: 24



Pre-Communication Studies

Students who apply for the Communication Studies major are initially classified as Pre-Communication Studies majors until they meet the following requirements: cumulative GPA of 2.0 or above and successful (grade C or above) completion of COMM 1101, COMM 2100, and either STAT 1220 or STAT 1222. Students matriculated at UNC Charlotte and planning to change or declare Pre-Communication Studies as their major must have an 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.

General Education Courses (37-41 credit hours)
For details on required courses, refer to the General Education Program.

Foreign Language Requirement (3-4 credit hours)
Students with a Major in Communication Studies 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. Intermediate American Sign Language is also accepted. Non-native speakers of English may complete the foreign language requirement by passing WRDS 1103, WRDS 1104, or the equivalent.

Latin Alphabet Courses
FREN 2201 - Intermediate French I (3)
GERM 2201 - Intermediate German I (3)
ITLN 2201 - Intermediate Italian I (3)
LATN 2201 - Latin Prose (3)
PORT 2201 - Intermediate Portuguese I (3)
SPAN 2201 - Intermediate Spanish I (3)

Non-Latin Alphabet Courses
ARBC 1202 - Elementary Arabic II (4)
CHNS 1202 - Elementary Chinese II (4)
FARS 1202 - Elementary Farsi II (4)
GREK 1202 - Elementary Ancient Greek II (4)
JAPN 1202 - Elementary Japanese II (4)
RUSS 1202 - Elementary Russian II (4)

Major Courses (24 credit hours)
All students complete 24 credit hours of Major Courses designed to provide a thorough understanding of fundamental communication processes. The Major Courses are structured into four categories:

General Theory/Skills Courses (12 credit hours)

COMM 1101 - Public Speaking (3) (O)
COMM 2100 - Introduction to Communication Theory (3)
COMM 2101 - Introduction to Rhetorical Theory (3)
COMM 3101 - Persuasion (3)

Research Methodology Courses (6 credit hours)
COMM 3100 - Communication Research Methods (3) (W)
STAT 1222 - Introduction to Statistics (3)

Macro-Context Courses (3 credit hours)
Select one of the following:
COMM 3120 - Communication and Mass Media (3)
COMM 3130 - Communication and Public Advocacy (3)
COMM 3141 - Organizational Communication (3)

Micro-Context Courses (3 credit hours)
Select one of the following:
COMM 2103 - Argumentation and Debate (3)
COMM 2105 - Small Group Communication (3)
COMM 2107 - Interpersonal Communication (3)

Concentration Courses (24 credit hours)
Required Concentration Courses (18 credit hours)
JOUR 2100 - Writing Foundations in Communication Studies (O)
JOUR 2160 - Introduction to Journalism (3) (W)
COMM 2145 - Principles of Public Relations (3)
COMM 2146 - Public Relations Ethics (3)
COMM 3245 - Public Relations Writing (3)
COMM 3246 - Public Relations Strategy (3)
COMM 4145 - Communication Campaigns (3)

Required Internship (3 credit hours)
Select one of the following:
COMM 4410 - Professional Internship (3) *(for the standard Public Relations major)*
COMM 4445 - International Professional Internship (3) *(for the Certificate in International Public Relations)*

Elective Concentration Course (3 credit hours)
Select one of the following:
ANTH 4120 - Intercultural Communication (3)
COMM 2102 - Advanced Public Speaking (3)
COMM 3055 - Topics in Public Relations (3)
COMM 3141 - Organizational Communication (3)
COMM 3880 - Independent Study (3)*
COMM 4101 - Media and the Law (3)
COMM 4141 - Advanced Organization Communication (3)
COMM 4147 - International Public Relations (3)
COMM 4410 - Professional Internship (3)*
ENGL 2116 - Introduction to Technical Communication (3) (W)
JOUR 3160 - Advanced News Reporting and Writing (3)
JOUR 3161 - News Editing (3)
JOUR 3162 - Feature Writing (3)

**Requires advisor approval.*

Related Courses (6 credit hours)
Students in the Public Relations concentration must complete 6 credit hours of related coursework, excluding any courses applied to Major Course requirements or requirements within that concentration. All related coursework must be approved by the student's advisor. An approved second major or a minor may be used to satisfy this requirement.

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

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.

Admissions 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

One three credit hour course chosen by the student from University Honors Program courses (not including experiential or project-based courses).

COMM 3890 - Honors Thesis I (3)
COMM 3891 - Honors Thesis II (3)

Certification 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 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.

Minor in Communication Studies

The Minor in Communication Studies consists of 18 credit hours of COMM courses.

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) (O)
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)

Grade 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, layout and design, and related communication and media issues. The minor consists of 18 credit hours of coursework.



Minor Requirements

Required Courses (12 credit hours)
JOUR 2100 - Writing Foundations in Communication Studies (0)
JOUR 2160 - Introduction to Journalism (3) (W)
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)*
ARTG 2181 - Graphic Design I (3)
ARTG 3183 - Graphic Design II (3)
ARTT 2191 - Photographic Media I (3)
COMM 2120 - Black Images in the Media in the U.S. (3)
COMM 3120 - Communication and Mass Media (3)
COMM 3127 - Global Media (3)
COMM 3880 - Independent Study (1 to 3)*
COMM 4101 - Media and the Law (3)
COMM 4102 - Federal Interpretation of the First Amendment (3)
POLS 3103 - Public Opinion (3)
POLS 3104 - Mass Media (3)

**with approval of advisor*

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

Certificate in International Public Relations

Students electing the Certificate in International Public Relations must be enrolled as majors in the Public Relations concentration in the B.A. in Communication Studies. In addition to completing the standard core and required concentration courses, students must complete the following additional concentration courses, related coursework, and language requirements.

Certificate Requirements

Additional Concentration Course (3 credit hours)
Select one of the following:
COMM 4147 - International Public Relations
COMM 4050 - London Seminar in Public Relations

Related Coursework (9 credit hours)
Students may either complete a semester of study abroad earning at least 9 credit hours at a non-American university OR complete an additional 9 credit hours of related coursework selected from the following courses (or other appropriate courses approved by the student's advisor). At least 3 credit hours must be taken at the 3000-level or above.

ANTH 2010 - Topics in Ethnography (3)
ANTH 2111 - Peoples of Africa (3)
ANTH 2115 - Culture and Society in the Middle East (3)
ANTH 2116 - Contemporary Latin America (3)

ANTH 4120 - Intercultural Communications (3)
COMM 3127 - Global Media (3)
HIST 2200 - Asian Civilization (3)
HIST 2201 - History of Modern Asia (3)
or INTL 2201 - Introduction to Asian Studies (3)
HIST 2207 - Modern Latin America (3)
or INTL 2401 - Introduction to Latin American Studies (3)
HIST 2211 - Modern Africa (3)
or INTL 2101 - Introduction to African Studies (3)
HIST 2240 - Twentieth Century Europe, 1913 to the Present (3)
or - INTL 2301 - Introduction to European Studies (3)
INTL 1101 - Introduction to International Studies (3)
INTL 3000 - Topics in International Studies (3)
POLS 1130 - Comparative Politics (3)
POLS 1150 - International Politics (3)
POLS 3141 - European Politics (3)
POLS 3143 - African Politics (3)
POLS 3144 - Latin American Politics (3)
POLS 3148 - Chinese Politics (3)
POLS 3164 - U.S.-Latin American Relations (3)
POLS 3165 - East Asia in World Affairs (3)
POLS 3169 - African International Relations (3)
SPAN 3029 - Cultural Dimensions of Doing Business with Spanish-Speaking Countries (3)

Foreign Language Requirement (3-4 hours)
Students must complete one additional 2000-level foreign language course beyond the departmental foreign language requirement. The following courses would meet this requirement:

FREN 2202 - Intermediate French II (3)
FREN 2210 - Introduction to Business French (3)
GERM 2202 - Intermediate German II (3)
ITLN 2202 - Intermediate Italian II (3)
JAPN 2201 - Intermediate Japanese I (4)
PORT 2202 - Intermediate Portuguese II (3)
RUSS 2201 - Intermediate Russian I (4)
SPAN 2202 - Intermediate Spanish II (3)
SPAN 2210 - Introduction to Spanish for Commerce (3)

International, non-native English speakers must score a minimum of 550 on the TOEFL, a minimum of 85 on the MELAB.

Total = 15 Credit Hours

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)

Ethics Courses (3 credit hours)

One course from the following:
PHIL 3210 - Ethical Theory (3)
PHIL 3340 - Business Ethics (3)
POLS 3175 - Philosophy of Law (3)

Elective Courses (6 credit hours)
AERO 3101 - Leadership and Management (3) (O)
AERO 3102 - Defense Administration and Military Management (3) (O)
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 2171 - Introduction to Industrial/Organizational Psychology (3)
POLS 3112 - The Presidency (3)
POLS 4110 - North Carolina Student Legislature (3) (O, W)

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

- 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

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
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree

Double-Counted Courses

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).

More Information

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
  - Crime Analytics
  - Honors Program
- Minor in Criminal Justice
- Early Entry: M.S. in Criminal Justice

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. Several students majoring in criminal justice also pursue a Concentration in Crime Analytics, providing depth in knowledge related to the use of data to solve crime problems.

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 and a Master of Science degree program in Criminal Justice. Please see the *UNC Charlotte Graduate Catalog* for details on the M.S. degree.



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

Freshmen

- *Minimum GPA:* 2.0
- *Pre-Major/Prerequisite Courses:* Completion of the below courses with a grade of C or above in each course. Students are allowed no more than two attempts at all core classes required to be admitted to the major (grades of D, F, and W all count as attempts).
  - CJUS 1100
  - CJUS 1200
  - CJUS 2340
  - CJUS 2370
  - STAT 1222, STAT 1220, or STAT 1221
- *Declaration of Major*: Current UNC Charlotte students interested in becoming a Criminal Justice major should refer to the Department of Criminal Justice website for specific instructions.

Transfers

- *Minimum GPA:* 2.0
- *Pre-Major/Prerequisite Courses:* Transfer students from a North Carolina community college can receive credit for the following courses. Transfer credit will only be awarded for courses completed with a grade of C or above.
  - CJUS 1100
  - CJUS 2350
  - CJUS 2360
  - CJUS 2361
  - CJUS 2380
  - STAT 1222, STAT 1220, or STAT 1221
- *Other:* Transfer students who have an A.A.S. degree in Criminal Justice 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.

Degree Requirements

A Major in Criminal Justice requires 40 credit hours of coursework.

General Education Courses (37-41 credit hours)

For details on required courses, refer to the General Education Program.

Foreign Language Requirement (0-8 credit hours)

For details, refer to the College of Liberal Arts & Sciences Foreign Language Requirements at the beginning of this section.

Major Courses (40 credit hours)

Foundation Courses (10 credit hours)

CJUS 1100 - 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) (W)
PSYC 2101 - Research Methodology I (3)
and PSYC 2103 - Research Methodology II (3) (W)
PSYC 2104 - Critical Thinking About Research (3) (W)
SOCY 3155 - Sociological Research Methods (4)
and SOCY 3155L - Sociological Research Methods Laboratory (0)

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 4370 - Data Analytics and Crime (3) (W)
CJUS 4371 - Criminal Data Sources, Data Management, and Cleaning (3) (W)
CJUS 4372 - Drug Analytics (3) (W)
CJUS 4373 - Intelligence Analysis and Security Analytics (3) (W)
CJUS 4374 - Geospatial Analytics and Crime (3) (W)
CJUS 4375 - Community-Oriented Policing, Problem-Solving, and Crime Analysis (3) (W)
CJUS 4376 - Social Network Analysis (3) (W)
CJUS 4377 - Crime Measurement and Data Visualization (3) (W)
CJUS 4378 - Causes and Consequences of Crime (3) (W)

Major Elective Courses (24 credit hours)

Select eight 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 3322 - Juvenile Law (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 3360 - Criminal Justice Learning Community I (3) (W)
CJUS 3361 - Criminal Justice Learning Community II (3) (O)
CJUS 3362 - Famous Criminal Trials of the Twentieth Century (3)
CJUS 3363 - Mediation and Conflict Resolution (3) (O)
CJUS 3364 - The Administration of Criminal Justice (3) (O,W)
CJUS 3365 - Interviewing in Criminal Justice (3) (O)
CJUS 3366 - Domestic Violence (3)
CJUS 3367 - Problems and Decisions in Criminal Justice (3) (W)
CJUS 3380 - Law Enforcement Behavioral Systems (3)
CJUS 3381 - Security and Loss Prevention (3)
CJUS 3382 - Community-Oriented Policing and Problem-Solving (3)
CJUS 3400 - Criminal Justice Internship (1 to 6)
CJUS 3800 - Directed Individual Study (1 to 4)

CJUS 4000 - Topics in Criminal Justice (1 to 6)
CJUS 4320 - Evidence (3) (O,W)
CJUS 4340 - Seminar on Sexual Assault (3) (O)
CJUS 4350 - Victims and the Criminal Justice System (3) (O)
CJUS 4351 - Violence and the Violent Offender (3)
CJUS 4352 - Serial Murder (3) (O)
CJUS 4360 - Drugs, Crime, and the Criminal Justice System (3)
CJUS 4361 - International Criminal Justice (3)
CJUS 4362 - Computer Crime (3)
CJUS 4363 - Gender, Race, and Justice (3) (O)
CJUS 4364 - Elders and the Criminal Justice System (3)
CJUS 4370 - Data Analytics and Crime (3) (W)
CJUS 4371 - Criminal Data Sources, Data Management, and Cleaning (3) (W)
CJUS 4372 - Drug Analytics (3) (W)
CJUS 4373 - Intelligence Analysis and Security Analytics (3) (W)
CJUS 4374 - Geospatial Analytics and Crime (3) (W)
CJUS 4375 - Community-Oriented Policing, Problem-Solving, and Crime Analysis (3) (W)
CJUS 4376 - Social Network Analysis (3) (W)
CJUS 4377 - Crime Measurement and Data Visualization (3) (W)
CJUS 4378 - Causes and Consequences of Crime (3) (W)
CJUS 4400 - Research Practicum (3)
CJUS 4700 - Honors Capstone Project in Criminal Justice (3)
SPAN 3221 - Spanish for Criminal Justice (3)

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade Requirements
A minimum of a C average in all criminal justice coursework and a minimum grade of C in CJUS 1100, CJUS 1200, CJUS 2340, CJUS 2370 (or POLS 2220; PSYC 2101 and PSYC 2103; PSYC 2104; or SOCY 3155 and SOCY 3155L); and STAT 1222 (or STAT 1220 or STAT 1221) are required.

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.

Bachelor of Arts in Criminal Justice *with Concentration in Crime Analytics*
This concentration 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. Students seeking to earn the B.A .in Criminal Justice with a Concentration in Crime Analytics must complete 15 credit hours in analytically based courses.

Admission Requirements
Freshmen
- *Minimum GPA:* 2.0
- *Pre-Major/Prerequisite Courses:* Completion of the below courses with a grade of C or above in each course. Students are allowed no more than two attempts at all core classes required to be admitted to the major (grades of D, F, and W all count as attempts).
  - CJUS 1100
  - CJUS 1200
  - CJUS 2340
  - CJUS 2370
  - STAT 1222, STAT 1220, or STAT 1221
- *Declaration of Major*: Current UNC Charlotte students interested in becoming a Criminal Justice major should refer to the Department of Criminal Justice website for specific instructions.

Transfers
- *Minimum GPA:* 2.0
- *Pre-Major/Prerequisite Courses:* Transfer students from a North Carolina community college can receive credit for the following courses. Transfer credit will only be awarded for courses completed with a grade of C or above.
  - CJUS 1100
  - CJUS 2350
  - CJUS 2360
  - CJUS 2361
  - CJUS 2380
  - STAT 1222, STAT 1220, or STAT 1221
- *Other:* Transfer students who have an A.A.S. degree in Criminal Justice 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.

Degree Requirements
A Major in Criminal Justice with a Concentration in Crime Analytics requires 40 credit hours of coursework; 15 of which must be taken from the Crime Analytics concentration elective courses.

General Education Courses (37-41 credit hours)
For details on required courses, refer to the General Education Program.

Foreign Language Requirement (0-8 credit hours)
For details, refer to the College of Liberal Arts & Sciences Foreign Language Requirements at the beginning of this section.

Major Courses (40 credit hours)
Foundation Courses (10 credit hours)
CJUS 1100 - 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) (W)
PSYC 2101 - Research Methodology I (3)
and PSYC 2103 - Research Methodology II (3) (W)
PSYC 2104 - Critical Thinking About Research (3) (W)
SOCY 3155 - Sociological Research Methods (4)
and SOCY 3155L - Sociological Research Methods Laboratory (0)

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)

Concentration Courses (12 credit hours)
Select four of the following:
CJUS 4370 - Data Analytics and Crime (3) (W)
CJUS 4371 - Criminal Data Sources, Data Management, and Cleaning (3) (W)
CJUS 4372 - Drug Analytics (3) (W)
CJUS 4373 - Intelligence Analysis and Security Analytics (3) (W)
CJUS 4374 - Geospatial Analytics and Crime (3) (W)
CJUS 4375 - Community-Oriented Policing, Problem-Solving, and Crime Analysis (3) (W)
CJUS 4376 - Social Network Analysis (3) (W)
CJUS 4377 - Crime Measurement and Data Visualization (3) (W)
CJUS 4378 - Causes and Consequences of Crime (3) (W)
CJUS 4379 - Qualitative Research and Analysis in Criminal Justice (3) (W)

Major Elective Courses (15 credit hours)
Select five 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 3322 - Juvenile Law (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 3360 - Criminal Justice Learning Community I (3) (W)
CJUS 3361 - Criminal Justice Learning Community II (3) (O)
CJUS 3362 - Famous Criminal Trials of the Twentieth Century (3)
CJUS 3363 - Mediation and Conflict Resolution (3) (O)
CJUS 3364 - The Administration of Criminal Justice (3) (O,W)
CJUS 3365 - Interviewing in Criminal Justice (3) (O)
CJUS 3366 - Domestic Violence (3)
CJUS 3367 - Problems and Decisions in Criminal Justice (3) (W)
CJUS 3380 - Law Enforcement Behavioral Systems (3)
CJUS 3381 - Security and Loss Prevention (3)
CJUS 3382 - Community-Oriented Policing and Problem-Solving (3)
CJUS 3400 - Criminal Justice Internship (1 to 6)
CJUS 3800 - Directed Individual Study (1 to 4)
CJUS 4000 - Topics in Criminal Justice (1 to 6)
CJUS 4320 - Evidence (3) (O,W)
CJUS 4340 - Seminar on Sexual Assault (3) (O)
CJUS 4350 - Victims and the Criminal Justice System (3) (O)
CJUS 4351 - Violence and the Violent Offender (3)
CJUS 4360 - Drugs, Crime, and the Criminal Justice System (3)
CJUS 4361 - International Criminal Justice (3)
CJUS 4362 - Computer Crime (3)
CJUS 4363 - Gender, Race, and Justice (3) (O)
CJUS 4364 - Elders and the Criminal Justice System (3)
CJUS 4370 - Data Analytics and Crime (3) (W)
CJUS 4371 - Criminal Data Sources, Data Management, and Cleaning (3) (W)
CJUS 4372 - Drug Analytics (3) (W)
CJUS 4373 - Intelligence Analysis and Security Analytics (3) (W)
CJUS 4374 - Geospatial Analytics and Crime (3) (W)
CJUS 4375 - Community-Oriented Policing, Problem-Solving, and Crime Analysis (3) (W)
CJUS 4376 - Social Network Analysis (3) (W)
CJUS 4377 - Crime Measurement and Data Visualization (3) (W)
CJUS 4378 - Causes and Consequences of Crime (3) (W)
CJUS 4400 - Research Practicum (3)
CJUS 4700 - Honors Capstone Project in Criminal Justice (3)
SPAN 3221 - Spanish for Criminal Justice (3)

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade Requirements
A minimum of a C average in all criminal justice coursework and a minimum grade of C in CJUS 1100, CJUS 1200, CJUS 2340, CJUS 2370 (or POLS 2220; PSYC 2101 and PSYC 2103; PSYC 2104; or SOCY 3155 and SOCY 3155L); and STAT 1222 (or STAT 1220 or STAT 1221) are required.

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 encourage 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
- 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
- 6 additional credit hours of honors coursework, either in HONR courses or in designated Honors sections

Certification Requirements
- A grade of A in CJUS 4700
- Overall GPA of 3.2
- GPA of 3.5 in the Criminal Justice major

- Complete the Application to Candidacy process for graduating with honors, as directed by the Honors College

The honors notation will appear on the student's official transcript.

Minor in Criminal Justice

A Minor in Criminal Justice is available to all undergraduates except Criminal Justice majors and Pre-Criminal Justice majors, and requires 18 approved credit hours.

Admission Requirements

- Minimum GPA (cumulative): 2.0
- Completion of CJUS 1100 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 Pre-Criminal Justice major or Criminal Justice major)

Minor Requirements

Required Courses (6 credit hours)

CJUS 1100 - 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 3322 - Juvenile Law (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) (O)
CJUS 3364 - The Administration of Criminal Justice (3) (O,W)
CJUS 3365 - Interviewing in Criminal Justice (3) (O)
CJUS 3366 - Domestic Violence (3)
CJUS 3367 - Problems and Decisions in Criminal Justice (3) (W)
CJUS 3380 - Law Enforcement Behavioral Systems (3)
CJUS 3381 - Security and Loss Prevention (3)
CJUS 3382 - Community-Oriented Policing and Problem-Solving (3)
CJUS 3800 - Directed Individual Study (1 to 4)
CJUS 4000 - Topics in Criminal Justice (1 to 6)
CJUS 4320 - Evidence (3) (O,W)
CJUS 4340 - Seminar on Sexual Assault (3) (O)
CJUS 4350 - Victims and the Criminal Justice System (3) (O)
CJUS 4351 - Violence and the Violent Offender (3)
CJUS 4352 - Serial Murder (3) (O)
CJUS 4360 - Drugs, Crime, and the Criminal Justice System (3)
CJUS 4361 - International Criminal Justice (3)
CJUS 4362 - Computer Crime (3)
CJUS 4363 - Gender, Race, and Justice (3) (O)
CJUS 4364 - Elders and the Criminal Justice System (3)
CJUS 4370 - Data Analytics and Crime (3) (W)
CJUS 4372 - Drug Analytics (3) (W)
CJUS 4373 - Intelligence Analysis and Security Analytics (3) (W)
CJUS 4374 - Geospatial Analytics and Crime (3) (W)
CJUS 4375 - Community-Oriented Policing, Problem-Solving, and Crime Analysis (3) (W)
CJUS 4376 - Social Network Analysis (3) (W)
CJUS 4377 - Crime Measurement and Data Visualization (3) (W)
CJUS 4378 - Causes and Consequences of Crime (3) (W)
CJUS 4400 - Research Practicum (3)
CJUS 4700 - Honors Capstone Project in Criminal Justice (3)
SPAN 3221 - Spanish for Criminal Justice (3)

Total = 18 Credit Hours

Grade Requirements

A GPA of at least 2.0 in CJUS courses is required to graduate, including a minimum grade of C in CJUS 1100 and CJUS 2340.

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

- 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

Continued Enrollment Requirements

- Maintain a minimum 3.0 overall undergraduate GPA

Double-Counted Courses

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).

More Information

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 English

english.charlotte.edu

Undergraduate Programs

- **B.A. in English**
  - **Creative Writing**
  - **Language and Digital Technology**
  - **Literature and Culture**
  - **Pedagogy**
  - **Honors Program**
- **Minor in Children's Literature and Childhood Studies**
- **Minor in Diverse Literatures 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.

Bachelor of Arts in English

A Major in English leading to the B.A. degree consists of 36 credit hours of coursework at the 2000-level or above beyond the General Education requirements. Students may also elect an optional concentration from one of four areas:



1) Creative Writing
2) Language and Digital Technology
3) Literature and Culture
4) Pedagogy

Admission Requirements

Freshmen and Transfers

- *Minimum GPA:* 2.0
- *Declaration of Major:* Change of Major forms accepted year-round; students must make an advising appointment during SOAR and when declaring the major
- *Transferable Credit Hours:* 24

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 2000-level may be counted toward the major. Of the 36 required credit hours, at least 3 credit hours must be in a departmentally designated diversity course. English majors not electing a specific concentration must complete the following:

General Education Courses (37-41 credit hours)
For details on required courses, refer to the General Education Program.

Foreign Language Requirement (0-8 credit hours)
For details, refer to the College of Liberal Arts & Sciences Foreign Language Requirements at the beginning of this section.

Foundation Course (3 credit hours)
COMM 1101 - Public Speaking (3) (O)

Major Courses (36 credit hours)
Creative Writing Courses
Select two of the following:
ENGL 2125 - Imagined Worlds: Creative Writing Laboratory (3)
ENGL 2126 - Introduction to Creative Writing (3) (W)
ENGL 2127 - Introduction to Poetry Writing (3)
ENGL 2128 - Introduction to Fiction Writing (3)
ENGL 2200 - Contemporary Literature (3)
ENGL 2201 - Contemporary Poetry (3)
ENGL 2202 - Contemporary Fiction (3)
ENGL 3201 - Intermediate Poetry Writing (3)
ENGL 3202 - Intermediate Fiction Writing (3)
ENGL 4202 - Advanced Poetry Writing (3) (W)
ENGL 4203 - Advanced Fiction Writing (3) (W)
ENGL 4206 - Writing Creative Nonfiction (3) (W)
ENGL 4207 - Writing Young Adult Fiction (3) (W)
ENGL 4208 - Poetry Writing Workshop (3) (W)

ENGL 4209 - Fiction Writing Workshop (3) (W)
ENGL 4290 - Advanced Creative Project (3) (O)

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 3267 - Vocabulary, Etymology, and Grammar (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) (W)
ENGL 4235 - History of the Book (3)
ENGL 4260 - History of Global Englishes (3)
ENGL 4262 - Language and Diversity (3)
ENGL 4263 - Linguistics and Language Learning (3)
ENGL 4267 - Language and Culture in Digital Spaces (3)
ENGL 4270 - Studies in Writing, Rhetoric, and Literacy (3) (W)
ENGL 4272 - Studies in the Politics of Language and Writing (3) (W)
ENGL 4273 - Studies in Writing, Rhetoric, and Identity (3) (W)
ENGL 4274 - Visual Rhetoric (3) (W)
ENGL 4275 - Rhetoric and Technology (3) (W)
ENGL 4277 - Digital Literacies (3)
ENGL 4400 - Research, Theory, and Practice of Tutoring Writing (3) (W)
ENGL 4405 - Literacy and Language (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 - Topics in Children's Literature, Media, and Culture (3)
ENGL 2100 - Writing About Literature (3) (W)
ENGL 2101 - Masterpieces of British Literature I (3)
ENGL 2102 - Masterpieces of British Literature II (3)
ENGL 2103 - Masterpieces of Modern Fiction (3)
ENGL 2104 - Major American Writers (3)
ENGL 2105 - Introduction to Poetry (3) (W)
ENGL 2106 - Film Criticism (3)
ENGL 2108 - Introduction to Drama (3) (W)
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 2403 - British Literature Survey (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 (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 3157 - Twentieth Century Black American Literature: Prose (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 3232 - Early 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 4090 - Major Authors (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 4114 - Milton (3)
ENGL 4116 - Shakespeare's Early Plays (3)
ENGL 4117 - Shakespeare's Late Plays (3)
ENGL 4118 - British Renaissance Literature (3)
ENGL 4120 - Romantic British Literature, 1785 1832 (3)
ENGL 4121 - British Literature of the Restoration and 18th Century (3)
ENGL 4122 - British Victorian Literature (3)
ENGL 4123 - Modern British Literature (3)
ENGL 4132 - British Drama to 1642, Excluding Shakespeare (3)
ENGL 4139 - Early American Literature (3)
ENGL 4140 - American Literature of the Romantic Period (3)
ENGL 4141 - American Literature of the Realist and Naturalist Periods (3)
ENGL 4142 - Modern American Literature (3)
ENGL 4145 - Literature of the American South (3)
ENGL 4150 - Poetry (3)
ENGL 4151 - Drama (3)
ENGL 4153 - Fiction (3)
ENGL 4155 - Pan-African Literature (3)
ENGL 4211 - Chaucer and Medieval Literature (3)
ENGL 4235 - History of the Book (3)
ENGL 4325 - Trauma and Memory in Contemporary American Literature (3)

Diversity Courses

Select one of the following:

ENGL 2301 - Introduction to African American Literature (3)
ENGL 3125 - Introduction to U.S. Latinx Literature (3)
ENGL 3157 - Twentieth Century Black American Literature: Prose (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 4104 - Multiculturalism and Children's Literature (3)
ENGL 4111 - Ancient World Literature (3)
ENGL 4112 - Modern World Literature (3)
ENGL 4165 - Multiculturalism and Language (3)
ENGL 4183 - Editing with Digital Technologies (3)
ENGL 4260 - History of Global Englishes (3)
ENGL 4262 - Language and Diversity (3)
ENGL 4270 - Studies in Writing, Rhetoric, and Literacy (3)
ENGL 4273 - Studies in Writing, Rhetoric, and Identity (3)
ENGL 4325 - Trauma and Memory in Contemporary American Literature (3)

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade 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
Freshmen and Transfers
- *Minimum GPA:* 2.0
- *Declaration of Major:* Change of Major forms accepted year-round; students must make an advising appointment during SOAR and when declaring the major
- *Transferable Credit Hours:* 24

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.

General Education Courses (37-41 credit hours)
For details on required courses, refer to the General Education Program.

Foreign Language Requirement (0-8 credit hours)
For details, refer to the College of Liberal Arts & Sciences Foreign Language Requirements at the beginning of this section.

Major Courses (21 credit hours)
Introductory Creative Writing Courses (6 credit hours)
Select two of the following:
ENGL 2125 - Creative Writing Laboratory (3)
ENGL 2126 - Introduction to Creative Writing (3) (W)
ENGL 2127 - Introduction to Poetry (3)
ENGL 2128 - Introduction to Fiction Writing (3)
ENGL 2200 - Contemporary Literature (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)

Advanced Creative Writing Courses (6 credit hours)
Select two of the following:
ENGL 4202 - Advanced Poetry Writing (3) (W)
or ENGL 4208 - Poetry Writing Workshop (3) (W)
ENGL 4203 - Advanced Fiction Writing (3) (W)
or ENGL 4209 - Fiction Writing Workshop (3) (W)
ENGL 4206 - Creative Nonfiction (3) (W)
ENGL 4207 - Writing Young Adult Fiction (3) (W)
ENGL 4290 - Advanced Creative Project (3) (O)

Literature Courses (6 credit hours)
Select one course from two of the following categories:

Pre-1800 British Literature
ENGL 3211 - Medieval Literature (3)
ENGL 3212 - British Renaissance Literature (3)
ENGL 3213 - British Literature of the Restoration and 18th Century (3)

Post-1800 British Literature
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)

Pre-1900 American Literature
ENGL 3231 - Early African American Literature (3)
ENGL 3232 - Early American Literature (3)
ENGL 3233 - American Literature of the Romantic Period (3)
ENGL 3234 - American Literature of the Realist and Naturalist Periods (3)

Post-1900 American Literature
ENGL 3125 - Introduction to U.S. Latinx Literature (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)

Children's Literature
ENGL 3102 - Literature for Young Children (3)
ENGL 3103 - Children's Literature (3)
ENGL 3104 - Literature for Adolescents (3)
ENGL 4102 - British Children's Literature (3)
ENGL 4103 - American Children's Literature (3)
ENGL 4104 - Multiculturalism and Children's Literature (3)

Restricted Elective Courses (15 credit hours)
Select fifteen additional credit hours in ENGL courses at the 2000-level or above.

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade 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 Language and Digital Technology*

Admission Requirements
Freshmen and Transfers
- *Minimum GPA:* 2.0
- *Declaration of Major:* Change of Major forms accepted year-round; students must make an advising appointment during SOAR and when declaring the major
- *Transferable Credit Hours:* 24

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.

General Education Courses (37-41 credit hours)
For details on required courses, refer to the General Education Program.

Foreign Language Requirement (0-8 credit hours)
For details, refer to the College of Liberal Arts & Sciences Foreign Language Requirements at the beginning of this section.

Major Courses (12 credit hours)
ENGL 3162 - Language and the Virtual World (3)
ENGL 3180 - Language and Digital Technology (3)
ENGL 4182 - Information Design and Digital Publishing (3)
or ENGL 4183 - Editing with Digital Technologies (3)*
ENGL 4168 - Multimodality and Text Description (3)
or ENGL 4267 - Language and Culture in Digital Spaces (3)*

**Remaining courses not taken as a Major Course may be taken as a Concentration Course.*

Concentration Courses (15 credit hours)
Select five 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 3267 - Vocabulary, Etymology, and Grammar (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 4181 - Writing and Designing User Documents (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 4263 - Linguistics and Language Learning (3)
ENGL 4270 - Studies in Writing, Rhetoric and Literacy - (3)*
ENGL 4272 - Studies in The Politics of Language and Writing (3) (W)
ENGL 4273 - Studies in Writing, Rhetoric, and Identity (3) (W)*
ENGL 4274 - Visual Rhetoric (3) (W)
ENGL 4275 - The Rhetoric of Technology (3) (W)
ENGL 4277 - Digital Literacies (3)
ENGL 4400 - Research, Theory, and Practice of Tutoring Writing (3) (W)
ENGL 4405 - Literacy and Language (3)
ENGL 4410 - Professional Internship (3)

**Courses are designated Department of English Diversity "D" courses.*

Restricted Elective Courses (9 hours)
Select nine additional credit hours in ENGL courses at the 2000-level or above.

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade 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
Freshmen and Transfers
- *Minimum GPA:* 2.0
- *Declaration of Major:* Change of Major forms accepted year-round; students must make an advising appointment during SOAR and when declaring the major
- *Transferable Credit Hours:* 24

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.

General Education Courses (37-41 credit hours)
For details on required courses, refer to the General Education Program.

Foreign Language Requirement (0-8 credit hours)
For details, refer to the College of Liberal Arts & Sciences Foreign Language Requirements at the beginning of this section.

Major Courses (6 credit hours)
ENGL 2100 - Writing about Literature (3) (W)
ENGL 3100 - Approaches to Literature (3) (W)

Concentration Required Courses (12 credit hours)
Students must satisfy the each of the following distribution requirements. Transfer courses will be considered, but only two courses at the 2000-level will be credited toward these distribution

requirements. Approved alternatives at the 4000-level can be used to satisfy this requirement.



British Literature Before 1800

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)

British Literature After 1800

Select one of the following:

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 Before 1900

Select one of the following:

ENGL 3231 - Early African American Literature (3)*
ENGL 3232 - Early American Literature (3)
ENGL 3233 - American Literature of the Romantic Period (3)
ENGL 3234 - American Literature of the Realist and Naturalist Periods (3)

American Literature After 1900

Select one of the following:

ENGL 3125 - Introduction to U.S. Latinx Literature (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)

**Courses are designated Department of English Diversity "D" courses.*

Concentration Elective Courses (9 credit hours)

Select three of the following:

ENGL 2072 - Topics in Literature and Film (3)
ENGL 2074 - Topics in Children's Literature, Media, and Culture (3)
ENGL 2100 - Writing About Literature (3) (W)
ENGL 2101 - Masterpieces of British Literature I (3)
ENGL 2102 - Masterpieces of British Literature II (3)
ENGL 2103 - Masterpieces of Modern Fiction (3)
ENGL 2104 - Major American Writers (3)
ENGL 2105 - Introduction to Poetry (3) (W)
ENGL 2106 - Film Criticism (3)
ENGL 2108 - Introduction to Drama (3) (W)
ENGL 2200 - Contemporary Literature (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 2403 - British Literature Survey (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 (3) (W)
ENGL 3102 - Literature for Young Children (3)
ENGL 3103 - Children's Literature (3)
ENGL 3104 - Literature for Adolescents (3)
ENGL 3157 - Twentieth Century Black American Literature: Prose (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 3232 - Early 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 Literature, Media, and Culture (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 4114 - Milton (3)
ENGL 4116 - Shakespeare's Early Plays (3)
ENGL 4117 - Shakespeare's Late Plays (3)
ENGL 4118 - British Renaissance Literature (3)
ENGL 4120 - Romantic British Literature, 1785-1832 (3)
ENGL 4121 - British Literature of the Restoration and 18th Century (3)
ENGL 4122 - British Victorian Literature (3)
ENGL 4123 - Modern British Literature (3)
ENGL 4132 - British Drama to 1642, Excluding Shakespeare (3)
ENGL 4139 - Early American Literature (3)
ENGL 4140 - American Literature of the Romantic Period (3)
ENGL 4141 - American Literature of the Realist and Naturalist Periods (3)
ENGL 4142 - Modern American Literature (3)
ENGL 4145 - Literature of the American South (3)
ENGL 4150 - Poetry (3)
ENGL 4151 - Drama (3)
ENGL 4153 - Fiction (3)
ENGL 4155 - Pan-African Literature (3)
ENGL 4211 - Chaucer and Medieval Literature (3)
ENGL 4235 - History of the Book (3)

Restricted Elective Courses (9 credit hours)

Select nine additional credit hours in ENGL courses at the 2000-level or above.

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade 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 Pedagogy*

Admission Requirements
Freshmen and Transfers
- *Minimum GPA:* 2.0
- *Declaration of Major:* Change of Major forms accepted year-round; students must make an advising appointment during SOAR and when declaring the major
- *Transferable Credit Hours:* 24

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.

General Education Courses (37-41 credit hours)
For details on required courses, refer to the General Education Program.

Foreign Language Requirement (0-8 credit hours)
For details, refer to the College of Liberal Arts & Sciences Foreign Language Requirements at the beginning of this section.

Major Courses (39 credit hours)
Required Major Courses (18 credit hours)
ENGL 3100 - Approaches to Literature (3) (W)
ENGL 3104 - Literature for Adolescents (3)
ENGL 3190 - Teaching Academic English to Adolescent Learners (3)
ENGL 4200 - Teaching of Writing (3) (W)
ENGL 4201 - Teaching of Multiethnic Literature (3) (W) *(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 (9 credit hours)
American Literature Survey Course (3 credit hours)
Select one of the following:
ENGL 3125 - Introduction to U.S. Latinx Literature (3)
ENGL 3231 - Early African American Literature (3)
ENGL 3232 - Early 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)
Select one of the following:
ENGL 2161 - Grammar for Writing (3)
ENGL 3132 - Introduction to Contemporary American English (3)
ENGL 4161 - Modern English Grammar (3)

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

Writing and Rhetoric Course (3 credit hours)
Select one of the following:
ENGL 4270 - Studies in Writing, Rhetoric, and Literacy (3) (W)
ENGL 4271 - Studies in Writing, Rhetoric, and New Media (3) (W)
ENGL 4272 - Studies in the Politics of Language and Writing (3) (W)
ENGL 4273 - Studies in Writing, Rhetoric, and Identity (3) (W) *

**Courses are designated Department of English Diversity "D" courses.*

Restricted Elective Course (3 credit hours)
Select one additional ENGL course at the 2000-level or above.

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade 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, Diverse Literatures and Cultural Studies, Linguistics, or Technical/Professional Writing.

Minor Requirements

A Minor in English consists of 18 credit hours in English courses at the 2000-level or above.

Required Courses (6 credit hours)
ENGL 2100 - Writing About Literature (3)
ENGL 3100 - Approaches to Literature (3)

Elective Courses (12 credit hours)
Select four ENGL courses, of which at least six credit hours are at the 3000-level or above.

Minor Total = 18 Credit Hours

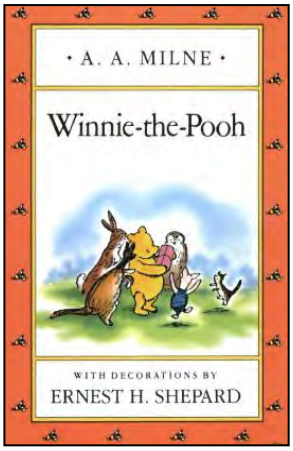
Grade Requirements

A GPA of 2.0 or above in all English courses taken is required for graduation.

Note: The Department of English allows English majors who minor in Children's Literature and Childhood Studies, Diverse Literatures 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.



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 Literature, Media, and Culture (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 Literature, Media, and Culture (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) (W)

Child-Related Courses (6 credit hours)
Select two of the following:
AMST 3210 - Childhood in America (3) *(recommended)*
ANTH 2090 - Topics in Anthropology (1 to 3) *(related to CLCS)*
CHFD 2111 - Foundations in Child and Family Development (3)
CHFD 2113 - Development: Prenatal to 36 Months (3)
CJUS 2361 - Juvenile Justice (3)
CJUS 3353 - Juvenile Corrections (3)
EDUC 2100 - Foundations of Education and Diversity in Schools (3)
or EDUC 1100 - Foundations of Education and Diversity in Schools - Prospect Curriculum (4)
EDUC 2150 - Human Development Across the Life Span (3)
ENGL 4263 - Linguistics and Language Learning (3)
MUSC 2191 - Incorporating Music Into the Elementary Classroom (3)
NURS 2200 - Human Growth and Development (3)
PHIL 3940 - Philosophy of Education (3)
PSYC 2120 - Child Psychology (3)
PSYC 2121 - Adolescent Psychology (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

Grade Requirements

A GPA of 2.0 or above in all English courses taken is required for graduation.

Note: The Department of English allows English majors who minor in Children's Literature and Childhood Studies, Diverse Literatures 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 Diverse Literatures and Cultural Studies

The Minor in Diverse Literatures and Cultural Studies provides students with an opportunity to study literatures and cultures in more contexts and forms of diversity. Students explore the ways in which the academic study of diverse literatures and cultures is linked to other disciplines that focus on particular aspects of diversity. 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.

Minor Requirements

The Minor in Diverse Literatures and Cultural Studies consists of 18 credit hours at the 2000-level and above.

Foundation Course (3 credit hours)

ENGL 2100 - Writing About Literature (3) (W)

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 3157 - Twentieth Century Black American Literature: Prose (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) (W)
ENGL 4271 - Studies in Writing, Rhetoric, and New Media (3) (W)
ENGL 4273 - Studies in Writing, Rhetoric, and Identity (3) (W)
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 "D" 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 Literature, Media, and Culture (3)

Elective Courses in Other Departments (6 credit hours)

Select two of the following courses in a Diversity 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) (W)
AFRS 2215 - Black Families in the United States (3) (W)
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 3158 - Gender and African American Literature (3)
AFRS 3179 - African American Political Philosophy (3)
AFRS 3190 - Political Economy of the Caribbean (3)
AFRS 3192 - African Cinema (3)
AFRS 3200 - Folklore of Africa and the African Diaspora (3)
AFRS 3210 - Black Families in the 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 3270 - Afro-Latin American History (3) (W)
AFRS 3280 - Blacks in Urban America (3)
AFRS 3830 - Philosophy and Race (3)
AFRS 4100 - African Diaspora Theory (3)
AFRS 4101 - Modern African Literature in English (3)
ANTH 2112 - North American Indians (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)
INTL 1101 - Introduction to International Studies (3)
INTL 3112 - Globalization and Culture (3)
INTL 3117 - Narratives and Conflicts (3)
INTL 3127 - Global Media (3)
INTL 3172 - Political Repression and Rebellion in the Contemporary World (3)
LACS 3160 - European Cinema (3) (O,W)
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) (W)
WGST 3112 - Women's Diaries and Women's Experience (3) (W)
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 3216 - Religion and Masculinity (3)
WGST 3310 - Gender and Sexuality (3)
WGST 4120 - Women's Studies International (3)
WGST 4140 - African American Feminism (3)
WGST 4150 - Gender, Science, and Technology (3)

WGST 4160 - Race, Sexuality, and the Body (3)
WGST 4170 - Queer Theory (3)

Minor Total = 18 Credit Hours

Grade Requirements
A GPA of 2.0 or above in all English courses taken is required for graduation.

Note: The Department of English allows English majors who minor in Children's Literature and Childhood Studies, Diverse Literatures 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 and Culture Studies, Philosophy, and Teaching English as a Second Language.

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 3267 - Vocabulary, Grammar, and Etymology (3)
ENGL 4061 - Approaches to Discourse (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 4263 - Linguistics and Language Learning (3)
ENGL 4267 - Language and Culture in Digital Spaces (3)
ENGL 4405 - Literacy and Language (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) (O, W)
PHIL 3420 - Philosophy of Language (3)
PHIL 3430 - Mind, Cognition, Behavior (3)
PHIL 3510 - Advanced Logic (3)
PSYC 3122 - Cognitive and Language Development (3)
PSYC 3216 - Introduction to Cognitive Science (3)
PSYC 4316 - 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)
TRAN 3601 - Introduction to Translation and Interpreting Studies (3)

Minor Total = 18 Credit Hours

Grade Requirements
A GPA of 2.0 or above in all English courses taken is required for graduation.

Note: The Department of English allows English majors who minor in Children's Literature and Childhood Studies, Diverse Literatures 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

Minor Requirements
The Minor in Technical/Professional Writing consists of 21 credit hours of coursework.

Required Courses (6 credit hours)
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 4180 - Theories of 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.

Elective Technical/Scientific Courses (6 credit hours)
Select two of the following courses from the 2000-4000 level in a technical or scientific discipline that cannot also count towards General Education Requirements:

ACCT 2121 - Principles of Accounting I (3)
ACCT 2122 - Principles of Accounting II (3)

ANTH 2xxx-3xxx - Anthropology Elective (3)
ARSC 3000 - Topics in Arts and Sciences (3)
BINF 2111 - Introduction to Bioinformatics Computing (4)
BIOL 2120 - General Biology I (3)
BIOL 2130 - General Biology II (3)
BIOL 2259 - Fundamentals of Microbiology (3)
BIOL 2274 - Human Anatomy and Physiology II (3)
BLAW 3150 - Business Law I (3)
CHEM 2131 - Organic Chemistry I (3)
CHEM 2132 - Organic Chemistry II (3)
CHEM 2141 - Survey of Physical Chemistry (3)
CHEM 3090 - Special Topics in Chemistry (1 to 4)
CHEM 3111 - Quantitative Analysis (4)
CHEM 3121 Inorganic Chemistry (3)
CEGR 2101 - Civil Engineering Drawing (2)
CEGR 2102 - Engineering Economic Analysis (3)
CEGR 2104 - Surveying and Site Design (3)
CEGR 2154 - Design Project Lab (2) (0)
CHFD 2111 - Foundations in Child and Family Development (3)
CHFD 2113 - Development: Prenatal to 36 Months (3)
CHFD 3113 - Families as the Core of Partnerships (3)
CHFD 3114 - Responsive Approaches for Infants and Toddlers (3)
CHFD 3115 - An Ecological Approach to Learning and Development - Early Childhood to Pre-Adolescence (3) (W)
CJUS 2xxx-3xxx - Criminal Justice Elective (3)
COMM 2xxx-3xxx - Communication Studies Elective (3)
ECON 2xxx-3xxx - Economics Elective (3)
ECGR 2xxx-3xxx - Electrical and Computing Engineering Elective (3)
EIST 4100 - Computer Applications in Education (3)
ELET 2xxx-3xxx - Electrical Engineering Technology Elective (3)
ENER 4140 - Energy Management (3)
ENER 4250 - Analysis of Renewable Energy Systems (3)
ESCI 2xxx-3xxx - Earth Sciences Elective (3)
ETFS 2xxx-3xxx - Fire and Safety Engineering Technology Elective (3)
ETGR 2xxx-3xxx - Engineering Technology Elective (3)
ETME 2xxx-3xxx - Mechanical Engineering Technology Elective (3)
EXER 2xxx-3xxx – Exercise Science Elective (3)
FILM 3120 - The Fundamentals of Video/Film Production (3)
FILM 3121 - Cinematography (3)
GEOG 2xxx-3xxx - Geography Elective (3)
GEOL 2xxx-3xxx - Geology Elective (3)
GRNT 2xxx-3xxx - Gerontology Elective (3)
HLTH 2xxx-3xxx - Public Health Sciences Elective (3)
INFO 2130 - Introduction to Business Computing (3)
INFO 3xxx - Business Information Systems Elective (3)
ITIS 2xxx-3xxx - Software and Information Systems Elective (3)
ITSC 2175 - Logic and Algorithms (3)
ITSC 2214 - Data Structures and Algorithms (3)
ITSC 3146 - Introduction to Operating Systems and Networking (3)
ITSC 3155 - Software Engineering (3)
ITSC 3181 - Introduction to Computer Architecture (3)
HIST 2140 - Disease and Medicine in History (3)
HSMT 3201 - Healthcare Leadership, Ethics, and Inter-Professional Communication (3) (O,W)
HSMT 3203 - Introduction to Healthcare Accounting and Finance (3)
HTAS 2100 - Introduction to Humanities, Technology, and Science (3)
INTL 3127 - Global Media (3)
INTL 3151 - International Political Economy (3)
JOUR 3163 - Visual Communication in Media (3)
LTAM 2252 - New World Archaeology (3)
LEGL 3141 - Organizational Communication (3)
LEGL 4101 - Media and the Law (3)
MEGR 2xxx-3xxx - Mechanical Engineering Elective (3)
METR 2xxx-3xxx - Meteorology Elective (3)
MGMT 3260 - Managerial Communication (3)
NDSS 3104 - Advanced Sleep and Neurodiagnostic Clinical Procedures (3)
NURS 2xxx-3xxx - Nursing Elective (3)
PHIL 3230 - Healthcare Ethics (3)
PHIL 3430 - Mind, Cognition, and Behavior (3)
PHYS 2xxx-3xxx - Physics Elective (3)
PSYC 2xxx-3xxx - Psychology Elective (3)
SEGR 2xxx-3xxx - Systems Engineering Elective (3)
SOCY 2xxx-3xxx - Sociology Elective (3)
TRAN 3601 - Introduction to Translation and Interpreting Studies (3)

Note: Students may request permission to take other appropriate courses from the Technical/Professional Writing Program Coordinator.

Minor Total = 21 Credit Hours

Grade Requirements

A GPA of 2.0 or above in all English courses taken is required for graduation.

Note: The Department of English allows English majors who minor in Children's Literature and Childhood Studies, Diverse Literatures 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

Entry into all honors courses is by permission of the department only, and requires the completion of one ENGL 4000-level course with a grade of A, as well as 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.

Course Requirements

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)

Certification 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

- 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.

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
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree

Double-Counted Courses

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).

More Information

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 Geography and Earth Sciences

geoearth.charlotte.edu

Undergraduate Programs

- B.S. in Earth and Environmental Sciences
  - Atmospheric Sciences
  - Environmental Sciences
  - Hydrological 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
  - GIScience and Technology
  - Urban and Regional Planning
  - Urban, Social, and Economics (USE) Geography
  - Honors Program
- B.S. in Geology
  - Honors Program
- B.S. in Meteorology
  - Honors Program
- Minor in Earth Sciences
- Minor in Environmental Sciences
- Minor in Geography
- Minor in Geology
- Minor in Urban Studies
- Early Entry: M.S. in Earth Science
- Early Entry: M.A. in Geography

The Department of Geography and Earth 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.

Facilities

The Department of Geography and Earth Sciences is housed in the McEniry building. Supported Geography and Earth Science teaching and research activities include the areas of 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

The Earth and Environmental Sciences program provides students with a foundation in data collection and processing methods, as well as relevant coursework that is integrated with applied chemistry, biology, and mathematics. Elective courses allow students to customize the degree toward specific interests or skills, and internships and independent research opportunities further enhance students' preparedness. In addition to the basic degree, students can specialize in one of three concentrations: atmospheric, hydrologic, or environmental sciences. Graduates find employment in environmental consulting 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 Earth and Environmental Sciences

A Major in Earth and Environmental Sciences leading to a B.S. degree consists of a minimum of 64 credit hours of required and elective coursework. The General Degree consists of 21 credit hours of required Earth Science (ESCI), Geography (GEOG), and Geology (GEOL) courses, 18 credit hours of required extra-departmental coursework, and 25 credit hours of elective courses. Concentrations in Atmospheric Sciences, Environmental Sciences, and Hydrologic Sciences are also available with their own individual degree requirements.

Admission Requirements

Freshmen

- *Minimum GPA:* n/a
- *Declaration of Major:* Students may declare the major at any time before graduation.

Transfers

- *Minimum GPA:* 2.0
- *Transferable Credit Hours:* 24

Degree Requirements

General Education Courses (37-41 credit hours)

For details on required courses, refer to the General Education Program.

Foreign Language Requirement (0-8 credit hours)

For details, refer to the College of Liberal Arts & Sciences Foreign Language Requirements at the beginning of this section.

Major Courses (21 credit hours)

ESCI 1101 - Earth Science-Geography - (3)
ESCI 1101L - Earth Science-Geography Lab (1)
ESCI 2101 - The Environmental Dilemma (3)
ESCI 2210 - Field Methods in the Earth and Environmental Sciences (3)
ESCI 3101 - Global Environmental Change (3)
GEOG 3120 - Fundamentals of Geographic Information Systems (4)
GEOL 1200 - Physical Geology (3)
GEOL 1200L - Physical Geology Lab (1)

Related Courses (18 credit hours)

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)

Mathematics and Statistics Courses
Select one of the following:
MATH 1242 - Calculus II (3)
STAT 1220 - Elements of Statistics I (BUSN) (3)
STAT 1221 - Elements of Statistics I (3)
STAT 1222 - Introduction to Statistics (3)

Science and Lab Courses
Select one of the following:
CHEM 1252 - Principles of Chemistry (3)
and CHEM 1252L - Principles of Chemistry Lab (1)
PHYS 1102 - Introductory Physics II (3)
and PHYS 1102L - Introductory Physics II Lab (1)

Restricted Elective Courses (25 credit hours)

Select from the following:*
BIOL 3215 - Economic Botany (3) (W)
BIOL 4162 - Advanced Biotechnology I (3) (W)
BIOL 4163 - Advanced Biotechnology II (3)
CEGR 3143 - Hydraulics and Hydrology (3)
ESCI 3105 - Oceanography (3)
ESCI 3170 - Environmental Quality Management (3)
ESCI 3180 - Environmental Impact Analysis (3)
ESCI 3190 - Biogeography (3) (W)
ESCI 3205 - Water Resources (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 4210 - Soil Science (4)
ESCI 4222 - Watershed Science (3)
ESCI 4233 - Geoenvironmental Site Characterization (4)
ESCI 4600 - Earth Sciences Seminar (1) (O)
GEOG 3190 - Biogeography (3) (W)
GEOG 3215 - Environmental Planning (3) (W)
GEOG 3250 - World Food Problems (3)
GEOG 4131 - Environmental Modeling with GIS (4)
GEOG 4215 - Urban Ecology (3)
GEOG 4216 - Landscape Ecology (3)
GEOL 3105 - The Earth's Mineral Resources: Sustainability and the Environmental Impacts of Recovery (3)
GEOL 3120L - Geochemistry Laboratory (1)
GEOL 3124 - Sedimentology (4) (W)
GEOL 3190 - Environmental Geology (3)
GEOL 3190L - Environmental Geology Laboratory (1)
GEOL 4105 - Geomorphology (4)
GEOL 4120 - Geologic Mapping and Interpretation (4)
GEOL 4125 - Geologic Summer Field Camp (6)
GEOL 4140 - Coastal Geology (3)
GEOL 4145 - Hydrogeology (4) (W)
GEOL 4165 - Aqueous and Environmental Geochemistry (3)
GEOL 4175 - Geochemistry (3)
GEOL 4410 - Applied Soil Science (4) (O)
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 3252 - Weather Analysis Laboratory (1)
METR 4150 - Applied Climatology (3) (W)
METR 4240 - Boundary-Layer Meteorology (3)

**Students are responsible for meeting all required prerequisites for elective courses.*

Unrestricted Elective Courses

As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Bachelor of Science in Earth and Environmental Sciences *with Concentration in Atmospheric Sciences*

The B.S. in Earth Sciences with a Concentration in Atmospheric Sciences consists of a minimum of 38 credit hours of required Earth Science (ESCI), Geography (GEOG), Meteorology (METR) and Geology (GEOL) courses, 18 credit hours of required extra-departmental coursework, and 8 credit hours of elective courses.

Admission Requirements

Freshmen

- *Minimum GPA:* n/a
- *Declaration of Major:* Students may declare the major at any time before graduation.

Transfers

- *Minimum GPA:* 2.0
- *Transferable Credit Hours:* 24

Degree Requirements

General Education Courses (37-41 credit hours)

For details on required courses, refer to the General Education Program.

Foreign Language Requirement (0-8 credit hours)

For details, refer to the College of Liberal Arts & Sciences Foreign Language Requirements at the beginning of this section.

Major Courses (21 credit hours)

ESCI 1101 - Earth Science-Geography - (3)
ESCI 1101L - Earth Science-Geography Lab (1)
ESCI 2101 - The Environmental Dilemma (3)
ESCI 2210 - Field Methods in the Earth and Environmental Sciences (3)
ESCI 3101 - Global Environmental Change (3)
GEOG 3120 - Fundamentals of Geographic Information Systems (4)
GEOL 1200 - Physical Geology (3)
GEOL 1200L - Physical Geology Lab (1)

Concentration Courses (17 credit hours)

ESCI 4170 - Fundamentals of Remote Sensing (4)
METR 3140 - Introduction to Meteorology and Climatology (3)
METR 3210 - Atmospheric Thermodynamics (3)
METR 3220 - Physical Meteorology (3)
METR 3245 - Synoptic Meteorology (4)

Related Courses (18 credit hours)

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)

Mathematics and Statistics Courses
Select one of the following:
MATH 1242 - Calculus II (3)
STAT 1220 - Elements of Statistics I (BUSN) (3)
STAT 1221 - Elements of Statistics I (3)
STAT 1222 - Introduction to Statistics (3)

Science and Lab Courses
Select one of the following:
CHEM 1252 - Principles of Chemistry (3)
and CHEM 1252L - Principles of Chemistry Lab (1)
PHYS 1102 - Introductory Physics II (3)
and PHYS 1102L - Introductory Physics II Lab (1)

Elective Courses (8 credit hours)

Select from the following:*
BIOL 3215 - Economic Botany (3) (W)
BIOL 4162 - Advanced Biotechnology I (3) (W)
BIOL 4163 - Advanced Biotechnology II (3)
CEGR 3143 - Hydraulics and Hydrology (3)
ESCI 3105 - Oceanography (3)
ESCI 3170 - Environmental Quality Management (3)
ESCI 3180 - Environmental Impact Analysis (3)
ESCI 3190 - Biogeography (3) (W)
ESCI 3205 - Water Resources (3)
ESCI 4140 - Hydrologic Processes (4)
ESCI 4155 - Fluvial Processes (4)
ESCI 4160 - Contaminant Transport (3)
ESCI 4180 - Digital Image Processing in Remote Sensing (4)
ESCI 4210 - Soil Science (4)
ESCI 4222 - Watershed Science (3)
ESCI 4233 - Geoenvironmental Site Characterization (4)
ESCI 4600 - Earth Sciences Seminar (1) (O)
GEOG 3190 - Biogeography (3) (W)
GEOG 3215 - Environmental Planning (3) (W)
GEOG 3250 - World Food Problems (3)
GEOG 4131 - Environmental Modeling with GIS (4)
GEOG 4215 - Urban Ecology (3)
GEOG 4216 - Landscape Ecology (3)
GEOL 3105 - The Earth's Mineral Resources: Sustainability and the Environmental Impacts of Recovery (3)
GEOL 3120L - Geochemistry Laboratory (1)
GEOL 3124 - Sedimentology (4) (W)
GEOL 3190 - Environmental Geology (3)
GEOL 3190L - Environmental Geology Laboratory (1)
GEOL 4105 - Geomorphology (4)
GEOL 4120 - Geologic Mapping and Interpretation (4)
GEOL 4125 - Geologic Summer Field Camp (6)
GEOL 4140 - Coastal Geology (3)
GEOL 4145 - Hydrogeology (4) (W)
GEOL 4165 - Aqueous and Environmental Geochemistry (3)
GEOL 4175 - Geochemistry (3)
GEOL 4410 - Applied Soil Science (4) (O)
METR 3250 - Dynamic Meteorology (3)
METR 3252 - Weather Analysis Laboratory (1)
METR 4150 - Applied Climatology (3) (W)
METR 4240 - Boundary-Layer Meteorology (3)

**Students are responsible for meeting all required prerequisites for elective courses.*

Unrestricted Elective Courses

As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours



Bachelor of Science in Earth and Environmental Sciences *with Concentration in Environmental Sciences*

The B.S. in Earth Sciences with a Concentration in Environmental Sciences consists of a minimum of 37 credit hours of required Earth Science (ESCI), Geography (GEOG), and Geology (GEOL) courses, 20 credit hours of required extra-departmental coursework, and 7 credit hours of elective courses.

Admission Requirements

Freshmen

- *Minimum GPA:* n/a
- *Declaration of Major:* Students may declare the major at any time before graduation.

Transfers

- *Minimum GPA:* 2.0
- *Transferable Credit Hours:* 24

Degree Requirements

General Education Courses (37-41 credit hours)

For details on required courses, refer to the General Education Program.

Foreign Language Requirement (0-8 credit hours)

For details, refer to the College of Liberal Arts & Sciences Foreign Language Requirements at the beginning of this section.

Major Courses (21 credit hours)

ESCI 1101 - Earth Science-Geography - (3)
ESCI 1101L - Earth Science-Geography Lab (1)
ESCI 2101 - The Environmental Dilemma (3)
ESCI 2210 - Field Methods in the Earth and Environmental Sciences (3)
ESCI 3101 - Global Environmental Change (3)
GEOG 3120 - Fundamentals of Geographic Information Systems (4)
GEOL 1200 - Physical Geology (3)
GEOL 1200L - Physical Geology Lab (1)

Concentration Courses (16 credit hours)

ESCI 3205 - Water Resources (3)
GEOG 3190 - Biogeography (3) W
GEOG 4131 - Environmental Modeling with GIS (4)
GEOG 4215 - Urban Ecology (3)
GEOL 3105 - The Earth's Mineral Resources: Sustainability and the Environmental Impacts of Recovery (3) or
GEOL 3190 - Environmental Geology (3)

Related Courses (20 credit hours)

BIOL 2120 - General Biology I (3)
BIOL 2130 - General Biology II (3)
BIOL 2140L - General Biology II Laboratory (2)
BIOL 3144 - Ecology (3)
BIOL 3144L - Ecology Laboratory (1) (W)
CHEM 1251 - Principles of Chemistry (3)
CHEM 1251L - Principles of Chemistry Lab (1)
CHEM 1252 - Principles of Chemistry II (3)
CHEM 1252L - Principles of Chemistry II Lab (1)

Restricted Elective Courses (7 credit hours)

Select from the following:*
BIOL 3215 - Economic Botany (3) (W)
BIOL 4162 - Advanced Biotechnology I (3) (W)
BIOL 4163 - Advanced Biotechnology II (3)
CEGR 3143 - Hydraulics and Hydrology (3)
ESCI 3105 - Oceanography (3)
ESCI 3170 - Environmental Quality Management (3)
ESCI 3180 - Environmental Impact Analysis (3)
ESCI 4140 - Hydrologic Processes (4)
METR 4150 - Applied Climatology (3) (W)
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 4210 - Soil Science (4)
ESCI 4222 - Watershed Science (3)
ESCI 4233 - Geoenvironmental Site Characterization (4)
ESCI 4600 - Earth Sciences Seminar (1) (O)
GEOG 3215 - Environmental Planning (3) (W)
GEOG 3250 - World Food Problems (3)
GEOG 4216 - Landscape Ecology (3)
GEOL 3124 - Sedimentology (4) (W)
GEOL 3190L - Environmental Geology Laboratory (1)
GEOL 4105 - Geomorphology (4)
GEOL 4120 - Geologic Mapping and Interpretation (4)
GEOL 4125 - Geologic Summer Field Camp (6)
GEOL 4140 - Coastal Geology (3)
GEOL 4145 - Hydrogeology (4) (W)
GEOL 4165 - Aqueous and Environmental Geochemistry (3)
GEOL 4175 - Geochemistry (3)
GEOL 4410 - Applied Soil Science (4) (O)
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 3252 - Weather Analysis Laboratory (1)
METR 4240 - Boundary-Layer Meteorology (3)

**Students are responsible for meeting all required prerequisites for elective courses.*

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Bachelor of Science in Earth and Environmental Sciences *with Concentration in Hydrological Sciences*

The B.S. in Earth Sciences with a Concentration in Hydrologic Sciences consists of a minimum of 39 credit hours of required Earth Science (ESCI), Geography (GEOG), Meteorology (METR), and Geology (GEOL) courses, 17 credit hours of required extra-departmental courses, and 8 credit hours of elective courses.

Admission Requirements

Freshmen

- *Minimum GPA:* n/a
- *Declaration of Major:* Students may declare the major at any time before graduation.

Transfers

- *Minimum GPA:* 2.0
- *Transferable Credit Hours:* 24

Degree Requirements

General Education Courses (37-41 credit hours)

For details on required courses, refer to the General Education Program.

Foreign Language Requirement (0-8 credit hours)

For details, refer to the College of Liberal Arts & Sciences Foreign Language Requirements at the beginning of this section.

Major Courses (21 credit hours)

ESCI 1101 - Earth Science-Geography - (3)
ESCI 1101L - Earth Science-Geography Lab (1)
ESCI 2101 - The Environmental Dilemma (3)
ESCI 2210 - Field Methods in the Earth and Environmental Sciences (3)
ESCI 3101 - Global Environmental Change (3)
GEOG 3120 - Fundamentals of Geographic Information Systems (4)
GEOL 1200 - Physical Geology (3)
GEOL 1200L - Physical Geology Lab (1)

Concentration Courses (18 credit hours)

ESCI 3205 - Water Resources (3)
ESCI 4140 - Hydrologic Processes (4)
ESCI 4155 - Fluvial Processes (4)
ESCI 4222 - Watershed Science (3)
GEOL 4145 - Fundamentals of Hydrogeology (4) (W)

Related Courses (17 credit hours)

CHEM 1251 - Principles of Chemistry (3)
CHEM 1251L - Principles of Chemistry Lab (1)
MATH 1241 - Calculus I (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)

Mathematics or Statistics Course
Select one of the following:
MATH 1242 - Calculus II (3)
STAT 2223 - Elements of Statistics II (3)

Science and Lab Courses
Select one of the following:
CHEM 1252 - Principles of Chemistry (3)
and CHEM 1252L - Principles of Chemistry Lab (1)
PHYS 1101 - Introductory Physics I (3)
and PHYS 1101L - Introductory Physics I Lab (1)

Restricted Elective Courses (8 credit hours)

Select from the following:*
BIOL 3215 - Economic Botany (3) (W)
BIOL 4162 - Advanced Biotechnology I (3) (W)
BIOL 4163 - Advanced Biotechnology II (3)
CEGR 3143 - Hydraulics and Hydrology (3)
ESCI 3105 - Oceanography (3)
ESCI 3170 - Environmental Quality Management (3)
ESCI 3180 - Environmental Impact Analysis (3)
ESCI 3190 - Biogeography (3) (W)
ESCI 4160 - Contaminant Transport (3)
ESCI 4170 - Fundamentals of Remote Sensing (4)
ESCI 4180 - Digital Image Processing in Remote Sensing (4)
ESCI 4210 - Soil Science (4)
ESCI 4233 - Geoenvironmental Site Characterization (4)
ESCI 4600 - Earth Sciences Seminar (1) (O)
GEOG 3190 - Biogeography (3) (W)
GEOG 3215 - Environmental Planning (3) (W)
GEOG 3250 - World Food Problems (3)
GEOG 4131 - Environmental Modeling with GIS (4)
GEOG 4215 - Urban Ecology (3)
GEOG 4216 - Landscape Ecology (3)
GEOL 3120L - Geochemistry Laboratory (1)
GEOL 3105 - The Earth's Mineral Resources: Sustainability and the Environmental Impacts of Recovery (3)
GEOL 3124 - Sedimentology (4) (W)
GEOL 3190 - Environmental Geology (3)
GEOL 4105 - Geomorphology (4)
GEOL 4120 - Geologic Mapping and Interpretation (4)
GEOL 4125 - Geologic Summer Field Camp (6)
GEOL 4140 - Coastal Geology (3)
GEOL 4165 - Aqueous and Environmental Geochemistry (3)
GEOL 4175 - Geochemistry (3)
GEOL 4410 - Applied Soil Science (4) (O)
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 3252 - Weather Analysis Laboratory (1)
METR 4150 - Applied Climatology (3) (W)
METR 4240 - Boundary-Layer Meteorology (3)

**Students are responsible for meeting all required prerequisites for elective courses.*

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours



Minor in Earth Sciences

A Minor in Earth Sciences consists of 20 credit hours of Earth Sciences courses. The minor can be tailored to support a number of majors, such as education, engineering, biology, chemistry, or physics.

Minor Requirements

Required Courses (8 credit hours)
ESCI 1101 - Earth Sciences – Geography (3)
ESCI 1101L - Earth Sciences - Geography Lab (1)
GEOL 1200 - Physical Geology (3)
GEOL 1200L - Physical Geology Laboratory (1)

Elective Courses (12 credit hours)
Select from the following:
ESCI 3105 - Oceanography (3)
ESCI 3170 - Environmental Quality Management (3)
ESCI 4140 - Hydrologic Processes (4)
ESCI 4155 - Fluvial Processes (4)
ESCI 4210 - Soil Science (4)
GEOL 1210 - Earth History - (3)
GEOL 1210L - Earth History Laboratory (1)
GEOL 3190 - Environmental Geology (3)
GEOL 4105 - Geomorphology (4)
METR 3140 - Introduction to Meteorology and Climatology (3)
METR 3245 - Synoptic Meteorology (4)

Total = 20 Credit Hours

Minor in Environmental Sciences

The Minor in Environmental Sciences is an interdisciplinary program in the College of Liberal Arts & Sciences that is designed for students pursuing any UNC Charlotte degree who are interested in careers related to studying or managing the environment.

Minor Requirements

To obtain a Minor in Environmental Sciences, students must complete 18 credit hours offered from the Department of Geography and Earth 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 Geography and Earth Sciences or Biological Science majors, they must take at least 9 of the 15 elective credits outside of their major. Prerequisites are required for most of the elective classes (notably GEOL 1200 and lab, ESCI 1101 and lab, BIOL 2120, and BIOL 2130 and lab). Courses that are required for a student's major cannot be counted toward the minor as well, but electives taken for a major can also be counted for the minor.

Foundation Course (3 credit hours)
ESCI 2101 - Environmental Dilemma (3)

Elective Courses (15 credit hours)
Select from the following:

Biological Sciences
BIOL 3144 - Ecology (3)
BIOL 3202 - Horticulture (3) (W)
BIOL 3222 - General Botany (4)
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 4162 - Advanced Biotechnology I (3) (W)
BIOL 4235 - Mammalogy (4)
BIOL 4242 - The Biology of Birds (3)
BIOL 4243 - Animal Behavior (3)

Earth Sciences
ESCI 3105 - Oceanography (3)
ESCI 3170 - Environmental Quality Management (3)
ECSI 3180 - Environmental Impact Analysis (3)
ESCI 4140 - Hydrological Processes (4)
ESCI 4155 - Fluvial Processes (4)
ESCI 4170 - Fundamentals of Remote Sensing (4)
ESCI 4210 - Soil Science (4) -
ESCI 4222 - Watershed Science (3) - -
ESCI 4233 - Geoenvironmental Site Characterization (4)

Geography
GEOG 2103 - Elements of GIScience and Technologies (4)
GEOG 3120 - Fundamentals of Geographic Information Systems (4)
GEOG 3215 - Environmental Planning (3) (W)
GEOG 3250 - World Food Problems (3)
GEOG 4040 - Transportation Planning (3)
GEOG 4131 - Environmental Modeling with GIS (4)
GEOL 3105 - The Earth's Mineral Resources: Sustainability and the Environmental Impacts of Recovery (3)
GEOL 3120 - Geochemistry (3)
GEOL 3190 - Environmental Geology (3)
GEOL 4145 - Fundamentals of Hydrogeology (4) (W)

Meteorology
METR 4150 - Applied Climatology (3) (W)
METR 4240 - Boundary-Layer Meteorology (3)

Minor Total = 18 Credit Hours

Grade Requirements
Students must have and maintain a GPA of at least 2.75 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
- 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

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
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree

Double-Counted Courses
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).

More Information
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
A Major in Environmental Studies leading to a B.A. degree consists of a minimum of 53 credit hours of required Earth Science (ESCI), Geology (GEOL), Geography (GEOG), and extra-departmental courses, and 16 hours of elective coursework. Students are responsible for meeting the course prerequisites for all extra-departmental coursework.

Admission Requirements
Freshmen
- *Minimum GPA:* n/a
- *Declaration of Major:* Students may declare the major at any time before graduation.

Transfers
- *Minimum GPA:* 2.0
- *Transferable Credit Hours:* 24

Degree Requirements
General Education Courses (37-41 credit hours)
For details on required courses, refer to the General Education Program.

Foreign Language Requirement (0-8 credit hours)
For details, refer to the College of Liberal Arts & Sciences Foreign Language Requirements at the beginning of this section.

Major Courses (37 credit hours)
ESCI 1101 - Earth Science-Geography - (3)
ESCI 1101L - Earth Science-Geography Lab (1)
ESCI 2101 - The Environmental Dilemma (3)
ESCI 4600 - Earth Sciences Seminar (1)
GEOG 1105 - The Location of Human Activity (3)
GEOG 2103 - Elements of GIScience & Technologies (4)
GEOG 3215 - Environmental Planning (3) (W)
GEOG 4215 - Urban Ecology (3)
GEOL 1200 - Physical Geology (3)
GEOL 1200L - Physical Geology Lab (1)
GEOL 3190 - Environmental Geology (3)

Select one of the following:
ESCI 2210 - Field Methods in the Earth and Environmental Sciences (3)
GEOG 2110 - Introduction to Geographic Research (3)

Select one of the following:
ECON 4181 - Energy and Environmental Economics (3)
GEOG 3220 - Renewable Energy and Regional Energy Markets (3)
GEOL 3105 - The Earth's Mineral Resources: Sustainability and the

Environmental Impacts of Recovery (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)

Restricted Elective Courses (16 credit hours)
Sixteen credit hours of elective coursework may be selected from additional ESCI, GEOL, and GEOG courses, plus any of the following extra-departmental courses:

BIOL 3144 - Ecology (3)
BIOL 3144L - Ecology Laboratory (1) (W)
PHIL 3520 - Philosophy of Science (3)
STAT 2223 - Elements of Statistics II (3)

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

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

- *Minimum GPA:* n/a
- *Declaration of Major:* Students may declare the major at any time before graduation.

Transfers

- *Minimum GPA:* 2.0
- *Transferable Credit Hours:* 24

Degree Requirements

General Education Courses (37-41 credit hours)
For details on required courses, refer to the General Education Program.

Foreign Language Requirement (0-8 credit hours)
For details, refer to the College of Liberal Arts & Sciences Foreign Language Requirements at the beginning of this section.

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
As needed to complete the credit hours required for graduation.

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 40 hours in Geography and Earth Sciences coursework.

Admission Requirements

Freshmen and Transfers

- *Minimum GPA:* 2.0
- *Declaration of Major:* Major can be declared on a rolling basis throughout the year. Students may declare the major at any time before graduation.
- *Transferable Credit Hours:* 24

Degree Requirements

General Education Courses (37-41 credit hours)
For details on required courses, refer to the General Education Program.

Foreign Language Requirement (0-8 credit hours)
For details, refer to the College of Liberal Arts & Sciences Foreign Language Requirements at the beginning of this section.

Major Courses (21 credit hours)
GEOG 1101 - World Regional Geography (3)
GEOG 1103 - Spatial Thinking (4)
GEOG 1105 - Location of Human Activity (3)
GEOG 1110 - Introduction to Urban and Regional Planning (3)
GEOG 2110 - Introduction to Geographic Research (3)
GEOG 4600 - Geography Professional Seminar (1)
ESCI 1101 - Earth Science-Geography (3)
ESCI 1101L - Earth Science-Geography Lab (1)

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
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Bachelor of Arts in Geography *with Teacher Licensure in Comprehensive Social Studies*

The Department of Geography and Earth 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

- *Minimum GPA:* 2.0
- *Declaration of Major:* Major can be declared on a rolling basis throughout the year. Students may declare the major at any time before graduation.
- *Transferable Credit Hours:* 24

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 (37-41 credit hours)
For details on required courses, refer to the General Education Program.

Foreign Language Requirement (0-8 credit hours)
For details, refer to the College of Liberal Arts & Sciences Foreign Language Requirements at the beginning of this section.

Major Courses (17 credit hours)
GEOG 1101 - World Regional Geography (3)
GEOG 1103 - Spatial Thinking (4)
GEOG 1105 - Location of Human Activity (3)
GEOG 1110 - Introduction to Urban and Regional Planning (3)
GEOG 2110 - Introduction to Geographic Research (3)
GEOG 4600 - Geography Professional Seminar (1)

Comprehensive Social Studies Courses (18 credit hours)
HIST 1160 - U.S. History to 1865 (3)
HIST 1161 - U.S. History Since 1865 (3)
HIST 1121 - European History Since 1660 (3)
HIST 2000 - Topics in U.S. History (3) or above (one Topics Course: Africa, Asia, or Latin America)
POLS 1110 - American Politics (3)
POLS 1130 - Comparative Politics (3)
or POLS 1150 - International 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
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade 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
A Major in Geography leading to a B.S. degree consists of 49 credit hours of Geography and Earth Sciences and at least six credit hours of extra-departmental coursework (55 credit hours total).

Although students pursuing a B.S. in Geography are not required to declare a concentration, formal concentrations within the major include Urban, Social, and Economic Geography; Urban and Regional Planning; and GIScience and Technology. Other plans of study may be developed; students 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.

Admission Requirements
Freshmen and Transfers
- *Minimum GPA:* 2.0
- *Declaration of Major:* Major can be declared on a rolling basis throughout the year.
- *Transferable Credit Hours:* 24

Degree Requirements
General Education Courses (37-41 credit hours)
For details on required courses, refer to the General Education Program.

Foreign Language Requirement (0-8 credit hours)
For details, refer to the College of Liberal Arts & Sciences Foreign Language Requirements at the beginning of this section.

Major Courses (31 credit hours)
GEOG 1101 - World Regional Geography (3)
GEOG 1103 - Spatial Thinking (4)
GEOG 1105 - Location of Human Activity (3)
GEOG 1110 - Introduction to Urban and Regional Planning (3)
GEOG 2110 - Introduction to Geographic Research (3)
GEOG 3120 - Fundamentals of Geographic Information Systems (4)
GEOG 4600 - Geography Professional Seminar (1)
ESCI 1101 - Earth Science-Geography (3)
ESCI 1101L - Earth Science-Geography Lab (1)
ENGL 2116 - Introduction to Technical Communication (3)
MATH or STAT course above MATH 1103 (3) *(STAT 1221 or STAT 1222 strongly suggested)*

Restricted Elective Courses (18 credit hours)
Select 18 credit hours of elective GEOG coursework at the 3000 or above level. Up to three elective courses may be selected from courses with the ESCI, GEOL, and METR prefix.

Note: this Elective Course requirement does not apply to students in the Concentration in GIScience and Technology.

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Bachelor of Science in Geography *with Concentration in GIScience and Technology*
The Concentration in GIScience and Technology (GIS) focuses on the acquisition, representation, analysis, modeling and dissemination of geospatial information with cutting-edge computer technologies. Emphasis is placed on both fundamentals of GIScience concepts, and building expert knowledge in the use of geospatial technologies such as GIS, remote sensing, spatial analysis and modeling, database development and management, programming, Web GIS, and geovisualization. Students benefit from systematic training through technical and applied GIS coursework taught by GIScience faculty. Graduates with a Concentration in GIScience and Technology find themselves well-prepared to start a career in a geographic information technology field. Career opportunities have been growing fast as GIScience in high demand in a wide range of professions, including GIS analysts, GIS developers, cartographers, urban and city planners, location analysts, transportation planners and natural resource specialists. Strong connections between the department and local and state agencies offer excellent opportunities to help students achieve their career goals. Students pursuing the Concentration in GIScience and Technology are urged to select their courses in consultation with their advisor to develop an appropriate program of study in this rapidly evolving field to ensure it is tailored to their career goals.

Admission Requirements
Freshmen and Transfers
- *Minimum GPA:* 2.0
- *Declaration of Major:* Major can be declared on a rolling basis throughout the year.
- *Transferable Credit Hours:* 24

Degree Requirements
General Education Courses (37-41 credit hours)
For details on required courses, refer to the General Education Program.

Foreign Language Requirement (0-8 credit hours)
For details, refer to the College of Liberal Arts & Sciences Foreign Language Requirements at the beginning of this section.

Major Courses (31 credit hours)
GEOG 1101 - World Regional Geography (3)
GEOG 1103 - Spatial Thinking (4)
GEOG 1105 - Location of Human Activity (3)
GEOG 1110 - Introduction to Urban and Regional Planning (3)
GEOG 2110 - Introduction to Geographic Research (3)
GEOG 3120 - Fundamentals of Geographic Information Systems (4)
GEOG 4600 - Geography Professional Seminar (1)
ESCI 1101 - Earth Science-Geography (3)
ESCI 1101L - Earth Science-Geography Lab (1)
ENGL 2116 - Introduction to Technical Communication (3)
MATH or STAT course above MATH 1103 (3) *(STAT 1221 or STAT 1222 strongly suggested)*

Concentration Courses (13-16 credit hours)
Foundation Course (4 credit hours)
GEOG 2102 - Introduction to Cartographic Design (4)

GIS Technique Courses (6-8 credit hours)
Select two of the following:
GEOG 4103 - Computer Programming for GIS Applications (3)
GEOG 4180 - Web GIS (3)
GEOG 4150 - Spatial Database Development with GPS and GIS (3)
ESCI 4180 - Digital Image Processing in Remote Sensing (4)

GIS Application Courses (3 credit hours)
Select one of the following:
GEOG 3260 - Medical Geography (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 4155 - Retail Location (3)
ESCI 4170 - Fundamentals of Remote Sensing (4)
GEOG 4265 - Transportation Analysis Methods (3)

GIS Elective Courses (18 credit hours)
Select at least 13 credit hours of additional GIS-related coursework from the courses listed above and an additional 2 to 5 credit hours in elective courses at the 3000 or above level, for a total of 18 credit hours.

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Bachelor of Science in Geography *with Concentration in Urban and Regional Planning*

Planners solve social and environmental problems in the built environment by translating knowledge into action. Planners work across cultural and disciplinary boundaries to create healthy, just, and sustainable communities. Therefore, the Concentration in Urban and Regional Planning supplies students with a trans-disciplinary perspective on major societal issues. Specific areas of instruction include land use, transportation and infrastructure, social justice, urban design, environmental preservation, and analytical methods. Knowledge, skills, and methods gained from the Concentration in Urban and Regional Planning afford students with opportunities for successful careers in public, private, and non-profit organizations. The concentration also prepares students for graduate studies in planning, geography, policy studies, and associated fields.

Admission Requirements
Freshmen and Transfers
- *Minimum GPA:* 2.0
- *Declaration of Major:* Major can be declared on a rolling basis throughout the year.
- *Transferable Credit Hours:* 24

Degree Requirements
General Education Courses (37-41 credit hours)
For details on required courses, refer to the General Education Program.

Foreign Language Requirement (0-8 credit hours)
For details, refer to the College of Liberal Arts & Sciences Foreign Language Requirements at the beginning of this section.

Major Courses (31 credit hours)
GEOG 1101 - World Regional Geography (3)
GEOG 1103 - Spatial Thinking (4)
GEOG 1105 - Location of Human Activity (3)
GEOG 1110 - Introduction to Urban and Regional Planning (3)
GEOG 2110 - Introduction to Geographic Research (3)
GEOG 3120 - Fundamentals of Geographic Information Systems (4)
GEOG 4600 - Geography Professional Seminar (1)
ESCI 1101 - Earth Science-Geography (3)
ESCI 1101L - Earth Science-Geography Lab (1)
ENGL 2116 - Introduction to Technical Communication (3)
MATH or STAT course above MATH 1103 (3) *(STAT 1221 or STAT 1222 strongly suggested)*

Restricted Elective Courses (18 credit hours)
Select 18 credit hours of elective GEOG coursework at the 3000 or above level. Up to three elective courses may be selected from courses with the ESCI, GEOL, and METR prefix.

Concentration Courses (14 credit hours)
Students in the Concentration in Urban and Regional Planning should select their courses in consultation with their advisor.

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Bachelor of Science in Geography *with Concentration in Urban, Social, and Economic (USE) Geography*

From the local to the global, patterns of urban growth and development connect people to each other, their communities, and their work at every scale of life. Accordingly, this concentration emphasizes how cities grow, how urban populations change, how urban areas interact with one another as well as the implications of these transitions and interactions at the local, regional and international levels. Coursework is tailored to student interest and typically involves foundational courses in urban, social, and economic dynamics; population, migration, and labor studies; poverty, inequality, and housing; transportation and locational analysis; and global and globalizing cities and the impacts of globalization at all geographic scales. Through classroom and research-based activities, students become grounded in the theory and methods of applied geographical analysis in an increasingly interdependent world that: (1) informs stakeholders and the general public; (2) prepares them for careers in the public and private sectors with consultancies, non-profit agencies, international business, think tanks, transnational organizations, while; (3) preparing them for further academic study.

Admission Requirements
Freshmen and Transfers
- *Minimum GPA:* 2.0

- *Declaration of Major:* Major can be declared on a rolling basis throughout the year.
- *Transferable Credit Hours:* 24

Degree Requirements

General Education Courses (37-41 credit hours)
For details on required courses, refer to the General Education Program.

Foreign Language Requirement (0-8 credit hours)
For details, refer to the College of Liberal Arts & Sciences Foreign Language Requirements at the beginning of this section.

Major Courses (31 credit hours)
GEOG 1101 - World Regional Geography (3)
GEOG 1103 - Spatial Thinking (4)
GEOG 1105 - Location of Human Activity (3)
GEOG 1110 - Introduction to Urban and Regional Planning (3)
GEOG 2110 - Introduction to Geographic Research (3)
GEOG 3120 - Fundamentals of Geographic Information Systems (4)
GEOG 4600 - Geography Professional Seminar (1)
ESCI 1101 - Earth Science-Geography (3)
ESCI 1101L - Earth Science-Geography Lab (1)
ENGL 2116 - Introduction to Technical Communication (3)
MATH or STAT course above MATH 1103 (3) *(STAT 1221 or STAT 1222 strongly suggested)*

Restricted Elective Courses (18 credit hours)
Select 18 credit hours of elective GEOG coursework at the 3000 or above level. Up to three elective courses may be selected from courses with the ESCI, GEOL, and METR prefix.

Concentration Courses (14 credit hours)
Specific coursework for this Concentration in Urban, Social, and Economic Geography is developed in consultation with the student's advisor.

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Minor in Geography

The Minor in Geography may be tailored to support a number of majors, such as architecture, business, computer science, and political science.

Minor Requirements

A Minor in Geography consists of 19 credit hours.

Required Courses (10 credit hours)
GEOG 1101 - World Regional Geography (3)
GEOG 1105 - Location of Human Activity (3)
ESCI 1101 - Earth Science-Geography (3)
ESCI 1101L - Earth Science-Geography Lab (1)

Elective Courses (9 credit hours)
Select three of the following:
GEOG 2000 - Topics in Geography (14)
GEOG 2102 - Introduction to Cartographic Design (4)
GEOG 2103 - Elements of GIScience and Technologies (4)
GEOG 2105 - Introduction to Economic Geography (3)
GEOG 2110 - Introduction to Geographic Research (3)
GEOG 2120 - Geographic Information Systems: Survey of Applications and Techniques (4)
GEOG 2121 - Introduction to Development Studies (3)
GEOG 2125 - Business Applications of GIS (3)
GEOG 2140 - Geography of North Carolina (3)
GEOG 2150 - Geography of Polar Regions (3)
GEOG 2155 - Geography of the U.S. and Canada (3)
GEOG 2160 - The South (3)
GEOG 2165 - Patterns of World Urbanization (3)
GEOG 2200 - Introduction to Urban Studies (3)
GEOG 3000 - Topics in Regional Geography (3)
GEOG 3100 - The City and Its Region (3)
GEOG 3105 - Geography of the Global Economy (3)
GEOG 3110 - Urban Political Geography (3)
GEOG 3115 - Urban Transportation Problems (3)
GEOG 3120 - Fundamentals of Geographic Information Systems (4)
GEOG 3150 - Manufacturing Geography (3)
GEOG 3161 - Migration and Borders in a Global World (3)
GEOG 3162 - Europe in the World (3)
GEOG 3190 - Biogeography (3)
GEOG 3200 - Land Use Planning (3)
GEOG 3205 - Internal Structure of the City (3)
GEOG 3210 - Regional Planning (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 3265 - Behavioral Geography (3)
GEOG 3500 - Geography Cooperative Education and 49ership Experience (0)
GEOG 3501 - Geography Cooperative Education Seminar (1)
GEOG 3605 - Geography of Europe (3)
GEOG 4000 - Topics in Geography (3)
GEOG 4040 - Transportation Topics (3)
GEOG 4101 - Cartographic Techniques (3)
GEOG 4102 - Cartographic Design and Map Construction (3)
GEOG 4103 - Computer Programming for GIS Applications (3)
GEOG 4108 - Sport, Place, and Development (3)
GEOG 4110 - GIS for Non-Majors (3)
GEOG 4130 - Advanced Geographic Information Systems (4)
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 4160 - The Geography of Transportation Systems (3)
GEOG 4180 - Web GIS (3)
GEOG 4209 - Small Town Planning (3)
GEOG 4210 - Urban Planning Methods (3)
GEOG 4215 - Urban Ecology (3)
GEOG 4216 - Landscape Ecology (3)
GEOG 4220 - Housing Policy (3)
GEOG 4240 - Geography of Knowledge and Information (3)
GEOG 4255 - Applied Population Analysis (3)
GEOG 4260 - Transportation Policy Formulation (3)

GEOG 4265 - Transportation Analysis Methods (3)
GEOG 4270 - Evaluation of Transportation Impacts (3)
GEOG 4310 - Urban Social Geography (3)
GEOG 4400 - Internship in Geography (36)
GEOG 4405 - Urban Field Geography (3)

Total = 19 Credit Hours

Minor in Urban Studies

For details on the Minor in Urban Studies, please refer to the Urban Studies heading later in the College of Liberal Arts & 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

- 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.

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
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree

Double-Counted Courses

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).

More Information

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*.

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

A Major in Geology leading to a B.S. degree consists of a minimum of 45 credit hours in geology and earth sciences and 18 credit hours of extra-departmental courses in chemistry, physics, and mathematics.

Admission Requirements

Freshmen

- *Minimum GPA:* n/a
- *Declaration of Major:* Major can be declared at any time before graduation.

Transfers

- *Minimum GPA:* 2.0
- *Declaration of Major:* Major can be declared at any time before graduation
- *Transferable Credit Hours:* 24

Degree Requirements

General Education Courses (37-41 credit hours)
For details on required courses, refer to the General Education Program.

Foreign Language Requirement (0-8 credit hours)
For details, refer to the College of Liberal Arts & Sciences Foreign Language Requirements at the beginning of this section.

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)

Restricted Elective Courses (17 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 3205 - Water Resources (3)
ESCI 4005 - Engineering Geology (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 4210 - Soil Science (4)
ESCI 4233 - Geoenvironmental Site Characterization (4)
ESCI 4600 - Earth Sciences Seminar (1) (O)

Students interested in licensure as a **Professional Geologist (PG)** are strongly advised to enroll in:

ESCI 4005 - Engineering Geology (3)
GEOL 3105 - The Earth's Mineral Resources: Sustainability and the Environmental Impacts of Recovery (3)
GEOL 3120 - Geochemistry (3)
GEOL 3140 - Paleontology (3)
GEOL 4100 - Igneous and Metamorphic Petrology (4)
GEOL 4105 - Geomorphology (4)
GEOL 4110 - Stratigraphy (4)
GEOL 4120 - Geologic Mapping and Interpretation (4)
GEOL 4125 - Geologic Summer Field Camp (6)
GEOL 4135 - Tectonics (4)
GEOL 4145 - Fundamentals of Hydrogeology (4) (W)

Students interested in licensure as a **Professional Soil Scientist (PSS)** are strongly advised to enroll in:
ESCI 4140 - Hydrologic Processes (4)
ESCI 4210 - Soil Science (4)
ETCE 3131 - Soil Mechanics and Earthwork (3)
ETCE 3131L - Soil Testing Lab (1) (W)
GEOL 3120 - Geochemistry (3)
GEOL 4105 - Geomorphology (4)
GEOL 4125 - Geologic Summer Field Camp (6)
GEOL 4410 - Applied Soil Science (4) (O)



Related Courses (18 credit hours)
CHEM 1251 - General Chemistry I (3)
CHEM 1251L - General Chemistry I Lab (1)
PHYS 1101 - Introductory Physics I (3)
PHYS 1101L - Introductory Physics I Lab (1)
MATH 1241 - Calculus I (3)
MATH 1242 - Calculus II (3)

Select one of the following science courses and its related lab:
CHEM 1252 - Principles of Chemistry (3)
CHEM 1252L Principles of Chemistry Lab (1)
PHYS 1102 Introductory Physics II (3)
PHYS 1102L Introductory Physics II Lab (1)

Recommended Courses
These optional courses are recommended for students planning to attend graduate school:
GEOL 4125 - Field Camp (6)
GEOL 4800 - Individual Study in Geology (3)
STAT 2122 - Introduction to Probability and Statistics (3)

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Minor in Geology

A Minor in Geology consists of a minimum of 20 credit hours in Geology courses. The minor can be tailored to support a number of majors, such as engineering, biological sciences, chemistry, or physics. Upper-division earth sciences courses can be applied to the minor with permission of the department.

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)
GEOL 3115 - Mineralogy (4)
GEOL 3120 - Geochemistry (3)
GEOL 3124 - Sedimentology (4)
GEOL 3130 - Structural Geology (4)
GEOL 3140 - Paleontology (3)
GEOL 3190 - Environmental Geology (3)
GEOL 3190L - Environmental Geology Lab (1)
GEOL 4410 - Applied Soil Science (4) (O)
GEOL 4100 - Igneous and Metamorphic Petrology (4)
GEOL 4105 - Geomorphology (4)
GEOL 4110 - Stratigraphy (4)
GEOL 4115 - Applied Geophysics (4) (O)
GEOL 4120 - Geologic Mapping and Interpretation (4)
GEOL 4125 - Geologic Summer Field Camp (6)
GEOL 4130 - Optical Mineralogy (3)
GEOL 4135 - Tectonics (4)
GEOL 4145 - Fundamentals of Hydrogeology (4) (W)
GEOL 4165 - Aqueous and Environmental Geochemistry (3)
GEOL 4400 - Internship in Geology (3 to 6)
GEOL 4800 - Individual Study in Geology (1 to 4)

Earth Sciences Courses that May Be Applied to the Minor in Geology with Departmental Permission
ESCI 4210 - Soil Science (3)
ESCI 3105 - Oceanography (3)
ESCI 4140 - Hydrologic Processes (4)
ESCI 4600 - Earth Sciences Seminar (1)
ESCI 4155 - Fluvial Processes (4)

ESCI 4170 - Fundamentals of Remote Sensing (4)
ESCI 4233 - Geoenvironmental Site Characterization (4)

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

- *Minimum GPA:* n/a
- *Declaration of Major:* Major can be declared at any time before graduation.

Transfers

- *Minimum GPA:* 2.0
- *Declaration of Major:* Major can be declared at any time before graduation
- *Transferable Credit Hours:* 24

Degree Requirements

The major comprises a minimum of 70 total credit hours with 34 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 (37-41 credit hours)
For details on required courses, refer to the General Education Program.

Foreign Language Requirement (0-8 credit hours)
For details, refer to the College of Liberal Arts & Sciences Foreign Language Requirements at the beginning of this section.

Major Courses (34 credit hours)
METR 1102 - Introduction to Meteorology (3)
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)
ESCI 3101 - Global Environmental Change (3)

Restricted Elective Courses (9 credit hours)
Select from the following:
ESCI 3105 - Oceanography (3)
ESCI 3205 - Water Resources (3)
ESCI 4140 - Hydrological Processes (4)
ESCI 4155 - Fluvial Processes (4)
ESCI 4170 - Fundamentals of Remote Sensing (4)
ESCI 4180 - Digital Image Processing in Remote Sensing (4)
ESCI 4222 - Watershed Science (3)
GEOG 3215 - Environmental Planning (3) (W)
GEOG 4110 - GIS for Non-Majors (3)
METR 3252 - Weather Analysis Laboratory (1)
METR 3330 - Weather Forecasting (3) (W)
METR 3340 - Weather Communications (3)
METR 4000 - Selected Topics in Meteorology (1 to 4)
METR 4110 - Atmospheric Instrumentation (3)
METR 4150 - Applied Climatology (3) (W)
METR 4220 - Atmospheric Chemistry (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)

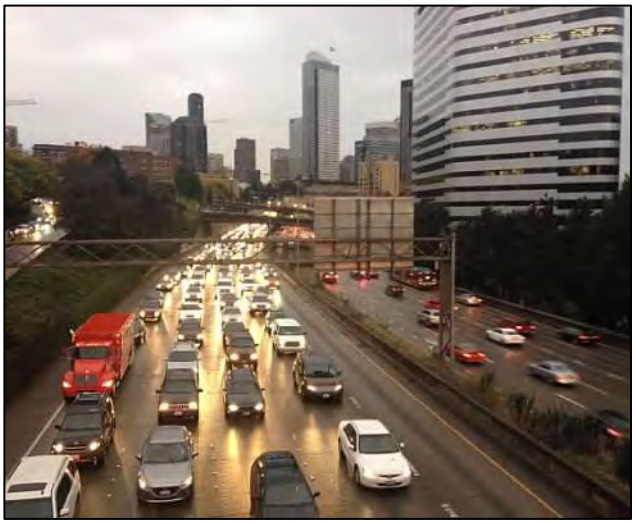
Related Courses (27 credit hours)
CHEM 1251 - General Chemistry I (3)
CHEM 1251L - General Chemistry I Lab (1)
MATH 1241 - Calculus I (3)
MATH 1242 - Calculus II (3)
MATH 2171 - Differential Equations (3)
MATH 2241 - Calculus III (3)
PHYS 2101 - Physics for Science I (3)
PHYS 2101L - Physics for Science I Lab (1)
PHYS 2102 - Physics for Science II (3)
PHYS 2102L - Physics for Science II Lab (1)
STAT 2122 - Introduction to Probability and Statistics (3)
or STAT 3122 - Probability and Statistics I (3)
or MATH 3122 - Probability and Statistics I (3)

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

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.



p

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, politics, and geography additionally emphasizes the ways in which urban practitioners identify and work to solve urban problems and challenges.

Minor Requirements

A Minor in Urban Studies requires completion of 18 credit hours.

Elective Courses (18 credit hours)
Select from the following:
ANTH 2125 - Urban Anthropology
GEOG 2165 - Patterns of World Urbanization (3)
GEOG 3100 - The City and Its Region (3)
GEOG 3205 - Internal Structure of the City (3)
HIST 3280 - Blacks in Urban America (3)
HIST 3281 - American Cities (3)
POLS 3121 - Urban Politics and Policy
or GEOG 3110 - Urban Political Geography (3)
SOCY 4125 Urban Sociology (3)
URBS 2200 - Introduction to Urban Studies (3)*
or GEOG 2200 - Introduction to Urban Studies (3)*
URBS 3050 - Topics in Urban Studies (3)

**May count toward credit for the General Education Requirement of LBST 2101.*

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 Geography and Earth 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.

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.

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 Geography and Earth Sciences or the University Career Center.

Department of Global Studies

globalstudies.charlotte.edu

Undergraduate Programs

- B.A. in International Studies
  - Asian Studies
  - Development and Sustainability
  - European Studies
  - Holocaust, Genocide, and Human Rights
  - Peace, Conflict, and Identity
  - Honors Program
- Minor in Holocaust, Genocide, and Human Rights Studies
- Minor in International 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 International Studies, as well as minors in International 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 encouraged 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 International Studies *with Concentration in Asian Studies*

The International 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. International 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.

International 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

- *Minimum GPA:* 2.0; students with GPA below 2.0 should consult with departmental advisor
- *Declaration of Major:* Change of Major form accepted year-round; orientation/advising session required after declaration.

Transfers

- *Minimum GPA:* 2.0
- *Declaration of Major:* Change of Major form accepted year-round; orientation/advising session required after declaration.
- *Transferable Credit Hours:* 24

Degree Requirements

A Major in International Studies requires a minimum of 30 credit hours in courses approved for International 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 (37-41 credit hours)

For details on required courses, refer to the General Education Program.

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. Language courses at the

3000-level offered in English do not apply to the foreign language requirement.

Core Course (3 credit hours)
INTL 1101 - Introduction to International Studies (3)

Concentration Courses (15 credit hours)
Foundation Concentration Course (3 credit hours)
Select one of the following:
INTL 2201 - Introduction to Asian Studies (3)
HIST 2201 - History of Modern Asia (3)

Elective Concentration Courses (12 credit hours)
Select four of the following:
INTL 3005 - Topics in Asian Studies (3)
HIST 3160 - History of Modern China (3)
HIST 3162 - Revolutionary Movements in Modern China (3)
HIST 3165 - History of Modern Japan (3)
HIST 3169 - Central Asia from 1800 to the Present (3)
JAPN 2209 - Introduction to Japanese Civilization and Culture (3) (O)
JAPN 3130 - Business and Culture in Japan (3)
JAPN 3140 - Anime and Japanese Popular Culture (3)
JAPN 3160 - Topics in Japanese Film (3)
POLS 3148 - Chinese Politics (3)
POLS 3165 - East Asia in World Affairs (3)
RELS 2102 - Introduction to Asian Religions (3)
RELS 2154 - Hinduism (3)
RELS 2157 - South Asian Buddhism (3)
RELS 2166 - Daoism (3)
RELS 2169 - Mahãyãna Buddhism in East Asia (3)

Restricted Elective Courses (9 credit hours)
Select three elective courses outside of the above selected concentration.

INTL xxxx - International Studies Elective (3)
INTL xxxx - International Studies Elective (3)
INTL xxxx - International Studies Elective (3)

Seminar Course (3 credit hours)
INTL 4601 - International Studies Seminar (3)

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

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 International 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 International Studies cannot be used to fulfill other requirements for the major.

Degree Total = 120 Credit Hours

Grade Requirement
A GPA of 2.0 is required.

Bachelor of Arts in International Studies *with Concentration in Development and Sustainability*
The International 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. International 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.

International 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
- *Minimum GPA:* 2.0; students with GPA below 2.0 should consult with departmental advisor
- *Declaration of Major:* Change of Major form accepted year-round; orientation/advising session required after declaration.

Transfers
- *Minimum GPA:* 2.0
- *Declaration of Major:* Change of Major form accepted year-round; orientation/advising session required after declaration.
- *Transferable Credit Hours:* 24

Degree Requirements
A Major in International Studies requires a minimum of 30 credit hours in courses approved for International 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 (37-41 credit hours)
For details on required courses, refer to the General Education Program.

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. Language courses at the 3000-level offered in English do not apply to the foreign language requirement.

Core Course (3 credit hours)
INTL 1101 - Introduction to International Studies (3)

Concentration Courses (15 credit hours)
Foundation Concentration Course (3 credit hours)
INTL 2121 - Introduction to Development Studies (3)

Elective Concentration Courses (12 credit hours)
Select four of the following, two of which must be INTL courses:
INTL 3000 - Topics in International Studies (3) *(if designated for concentration)*
INTL 3001 - Topics In Development and Sustainability Studies (3)
INTL 3114 - Cultures of the Caribbean (3)
INTL 3118 - Thinking Globally, Reading Deeply: Earth Matters (3)
INTL 3125 - Food and Globalization (3)
or ANTH 3125 - Food and Globalization (3)
INTL 3127 - Global Media (3)
or COMM 3127 - Global Media (3)
INTL 3135 - Origins of Globalization (3)
or ANTH 3135 - Origins of Globalization (3)
INTL 3151 - International Political Economy (3)
or POLS 3151 - International Political Economy (3)
INTL 3161 - Migration and Borders in a Global World (3)
or GEOG 3161 - Migration and Borders in a Global World (3)
AFRS 3155 - Health and Healing in Africa (3)
or HIST 3155 - Health and Healing in Africa (3)
AFRS 3190 - Political Economy of the Caribbean (3)
or LTAM 3190 - Political Economy of the Caribbean (3)
AFRS 3230 Poverty and Discrimination in the African Diaspora in the Modern Era (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 Macroeconomics (3)
GEOG 2120 - Geographic Information Systems: - Survey of Applications and Techniques (4)
GEOG 2165 - Patterns of World Urbanization (3)
GEOG 3105 - Geography of the Global Economy (3)
GEOG 3250 - World Food Problems (3)
HLTH 4280 - Global Health Issues (3)
HONR 1702 - Economic Welfare and International Communities (3)
or LBST 2102 *(equivalent Honors Section)* (3)
LTAM 3154 - Political Economy of Latin America (3)
or POLS 3155 - Political Economy of Latin America (3)

Restricted Elective Courses (9 credit hours)
Select three elective courses outside of the above selected concentration.

INTL xxxx - International Studies Elective (3)
INTL xxxx - International Studies Elective (3)
INTL xxxx - International Studies Elective (3)

Seminar Course (3 credit hours)
INTL 4601 - International Studies Seminar (3)

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

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 International 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 International Studies cannot be used to fulfill other requirements for the major.

Degree Total = 120 Credit Hours

Grade Requirement
A GPA of 2.0 is required.

Bachelor of Arts in International Studies *with Concentration in European Studies*
The International 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. International 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.

International 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

- *Minimum GPA:* 2.0; students with GPA below 2.0 should consult with departmental advisor
- *Declaration of Major:* Change of Major form accepted year-round; orientation/advising session required after declaration.

Transfers

- *Minimum GPA:* 2.0
- *Declaration of Major:* Change of Major form accepted year-round; orientation/advising session required after declaration.
- *Transferable Credit Hours:* 24

Degree Requirements

A Major in International Studies requires a minimum of 30 credit hours in courses approved for International 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 (37-41 credit hours)

For details on required courses, refer to the General Education Program.

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. Language courses at the 3000-level offered in English do not apply to the foreign language requirement.

Core Course (3 credit hours)

INTL 1101 - Introduction to International Studies (3)

Concentration Courses (15 credit hours)

Foundation Concentration Course (3 credit hours)

Select one of the following:

INTL 2301 - Introduction to European Studies (3)
HIST 1121 - European History Since 1660 (3)

Elective Concentration Courses (12 credit hours)

Select four of the following:

INTL 3004 - Topics in European Studies (3)
INTL 3162 - Europe in the World (3)
or GEOG 3162 - Europe in the World (3)
FREN 2209 - French Civilization (3)
FREN 3209 - France Today (3)
GERM 3030 - Studies in German Culture (3)
GERM 3160 - Survey of German Film (3)
HIST 2001 - Topics in European History (3)
HIST 2152 - European Women's and Gender History (3)
HIST 2240 - Twentieth Century Europe, 1914 to the Present (3)
HIST 2242 - Eastern Europe After 1945 (3)
HIST 2251 - Russian History from 1552 to 1861 (3)
HIST 2252 - Russian History from 1861 to the Present (3)
HIST 2261 - Britain Since 1688 (3)
HIST 2265 - History of Ireland (3)
HIST 2271 - Modern France (1774 to the Present) (3)
HIST 2281 - Modern Germany (3)
HIST 3141 - World War I (3)
HIST 3147 - The Third Reich (3)
LACS 3160 - European Cinema (3)
POLS 3141 - European Politics (3)
POLS 3153 - European Union (3)
RELS 2101 - Introduction to Western Religions (3)
RUSS 3209 - Russian Civilization and Culture (3)
SPAN 3209 - Spanish Civilization and Culture (3)

Restricted Elective Courses (9 credit hours)

Select three elective courses outside of the above selected concentration.

INTL xxxx - International Studies Elective (3)
INTL xxxx - International Studies Elective (3)
INTL xxxx - International Studies Elective (3)

Seminar Course (3 credit hours)

INTL 4601 - International Studies Seminar (3)

Unrestricted Elective Courses

As needed to complete the credit hours required for graduation.

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 International 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 International Studies cannot be used to fulfill other requirements for the major.

Degree Total = 120 Credit Hours

Grade Requirement
A GPA of 2.0 is required.

Bachelor of Arts in International Studies *with Concentration in Holocaust, Genocide, and Human Rights*

The International 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. International 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.



International 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
- *Minimum GPA:* 2.0; students with GPA below 2.0 should consult with departmental advisor
- *Declaration of Major:* Change of Major form accepted year-round; orientation/advising session required after declaration.

Transfers
- *Minimum GPA:* 2.0
- *Declaration of Major:* Change of Major form accepted year-round; orientation/advising session required after declaration.
- *Transferable Credit Hours:* 24

Degree Requirements
A Major in International Studies requires a minimum of 30 credit hours in courses approved for International 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 (37-41 credit hours)
For details on required courses, refer to the General Education Program.

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. Language courses at the 3000-level offered in English do not apply to the foreign language requirement.

Core Course (3 credit hours)
INTL 1101 Introduction to International Studies (3)

Concentration Courses (15 credit hours)
Foundation Concentration Course (3 credit hours)
Select one of the following:
HGHR 2100 - Introduction to Holocaust, Genocide, and Human Rights (3)
INTL 2100 - Introduction to Holocaust, Genocide, and Human Rights (3)

Elective Concentration Courses (12 credit hours)
Select four of the following, two of which must be INTL courses:
INTL 2101 - Introduction to African Studies (3)
or HIST 2211 - Modern Africa (3)
INTL 3000 - Topics in International Studies (1 to 3)
INTL 3003 - Topics in Peace, Conflict, and Identity Studies (3)
INTL 3111 - Politics and Culture in Literature (3) (W)
INTL 3112 - Globalization and Culture (3)
or ANTH 3112 - Globalization and Culture (3)
INTL 3115 - Globalization and Digital Media (3)
or COMM 3126 - Globalization and Digital Media (3)
INTL 3116 - Cultures and Conflicts (3)
or ANTH 3116 - Cultures and Conflicts (3)
INTL 3117 - Narratives and Conflicts (3)
or ANTH 3117 - Narratives and Conflicts (3)
INTL 3119 - Human Rights and Conflict (3)
INTL 3120 - Women's Studies International (3)
or WGST 4120 - Women's Studies International (3)

INTL 3121 - Gender and Globalization (3)
INTL 3122 - Transnational Feminisms (3)
INTL 3131 - Diplomacy in a Changing World (3)
INTL 3132 - Peacebuilding in Divided Societies (3)
INTL 3133 - Post-Conflict Reconciliation and Justice (3)
INTL 3155 - Global Citizenship (3)
AFRS 2207 - Pan-Africanism (3)
AFRS 4105 - African International Relations (3)
or POLS 3169 - African International Relations (3)
ANTH 2115 - Culture and Society in the Middle East (3)
ANTH 2122 - Beliefs, Symbols, and Rituals (3)
ANTH 2123 - Women in Cross-Cultural Perspective (3)
or WGST 2123 - Women in Cross-Cultural Perspective (3)
HIST 2216 - The Modern Middle East (3)
or RELS 2216 - The Modern Middle East (3)
HIST 3179 - Authoritarianism in Latin America (3)
or LTAM 3279 - Authoritarianism in Latin America (3)
HONR 1701 - War, Peace, Justice and Human Survival (3)
or LBST 2102 - Global and Intercultural Connections (3*) (equivalent Honors section)*
LTAM 3144 - Latin American Politics (3)
or POLS 3144 - Latin American Politics (3)
PHIL 3910 - Philosophy of War and Peace (3)
POLS 3135 - Terrorism (3)
POLS 3143 - African Politics (3)
POLS 3152 - International Organizations (3)
RELS 2131 - Islam (3)
WGST 2170 - Gender and Globalization (3)

Restricted Elective Courses (9 credit hours)
Select three elective courses outside of the above selected concentration.

INTL xxxx - International Studies Elective (3)
INTL xxxx - International Studies Elective (3)
INTL xxxx - International Studies Elective (3)

Seminar Course (3 credit hours)
INTL 4601 - International Studies Seminar (3)

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

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 International 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 International Studies cannot be used to fulfill other requirements for the major.

Degree Total = 120 Credit Hours

Grade Requirement
A GPA of 2.0 is required.

Bachelor of Arts in International Studies *with Concentration in Peace, Conflict, and Identity*
The International 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. International 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.

International 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
- *Minimum GPA:* 2.0; students with GPA below 2.0 should consult with departmental advisor
- *Declaration of Major:* Change of Major form accepted year-round; orientation/advising session required after declaration.

Transfers
- *Minimum GPA:* 2.0
- *Declaration of Major:* Change of Major form accepted year-round; orientation/advising session required after declaration.
- *Transferable Credit Hours:* 24

Degree Requirements
A Major in International Studies requires a minimum of 30 credit hours in courses approved for International 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 (37-41 credit hours)
For details on required courses, refer to the General Education Program.

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. Language courses at the 3000-level offered in English do not apply to the foreign language requirement.

Core Course (3 credit hours)
INTL 1101 Introduction to International Studies (3)

Concentration Courses (15 credit hours)
Foundation Concentration Course (3 credit hours)
INTL 2131 - Introduction to Peace, Conflict, and Identity Studies (3)

Elective Concentration Courses (12 credit hours)
Select four of the following, two of which must be INTL courses:
INTL 2101 - Introduction to African Studies (3)
or HIST 2211 - Modern Africa (3)
INTL 3000 - Topics in International Studies (3) *(if designated for concentration)*
INTL 3003 - Topics in Peace, Conflict, and Identity Studies (3)
INTL 3111 - Politics and Culture in Literature (3)
INTL 3112 - Globalization and Culture (3)
or ANTH 3112 - Globalization and Culture (3)
INTL 3115 - Globalization and Digital Media (3)
or COMM 3126 - Globalization and Digital Media (3)
INTL 3116 - Cultures and Conflicts (3)
or ANTH 3116 - Cultures and Conflicts (3)
INTL 3117 - Narratives and Conflicts (3)
or ANTH 3117 - Narratives and Conflicts (3)
INTL 3120 - Women's Studies International (3)
or WGST 4120 - Women's Studies International (3)
INTL 3131 - Diplomacy in a Changing World (3)
INTL 3136 - Globalization and Resistance (3)
or ANTH 3136 - Globalization and Resistance (3)
AFRS 2207 - Pan-Africanism (3)
AFRS 4105 - African International Relations (3)
or POLS 3169 - African International Relations (3)
ANTH 2115 - Culture and Society in the Middle East (3)
ANTH 2122 - Beliefs, Symbols, and Rituals (3)
HIST 2216 - The Modern Middle East (3)
or RELS 2216 - The Modern Middle East (3)
HIST 3179 - Authoritarianism in Latin America (3)
or LTAM 3279 - Authoritarianism in Latin America (3)
HONR 1701 - War, Peace, Justice and Human Survival (3)
or LBST 2102 *(equivalent Honors section)* (3)
PHIL 3910 - Philosophy of War and Peace (3)
POLS 3135 - Terrorism (3)
POLS 3143 - African Politics (3)
POLS 3144 - Latin American Politics (3)
or LTAM 3144 - Latin American Politics (3)
POLS 3152 - International Organizations (3)
RELS 2131 - Islam (3)
WGST 2123 - Women in Cross-Cultural Perspective (3)
or ANTH 2123 - Women in Cross-Cultural Perspective (3)
WGST 2170 - Gender and Globalization (3)

Restricted Elective Courses (9 credit hours)
Select three elective courses outside of the above selected concentration.

INTL xxxx - International Studies Elective (3)
INTL xxxx - International Studies Elective (3)
INTL xxxx - International Studies Elective (3)

Seminar Course (3 credit hours)
INTL 4601 - International Studies Seminar (3)

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

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 International 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 International Studies cannot be used to fulfill other requirements for the major.

Degree Total = 120 Credit Hours

Grade Requirement
A GPA of 2.0 is required.

Honors Program in Global Studies
The Honors Program in Global Studies provides select International 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
International Studies majors are eligible to apply for departmental honors if they meet the following requirements:

- Minimum 3.5 GPA in International 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 International Studies major
- Complete INTL 4601 by producing a detailed research proposal and literature review; this will serve as a prerequisite for advancement to INTL 4701
- Complete INTL 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.

Grade Requirements

In order to graduate with Honors in Global Studies, students must:

- Maintain a minimum GPA of 3.5 in the International Studies major
- Maintain a minimum GPA of 3.25 overall
- Achieve a grade of A in INTL 4601
- Pass the thesis defense and achieve a grade of A in INTL 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.

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.

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)
INTL 3000 - Topics in International Studies (3) *(appropriate sections)*
INTL 3120 - Women's Studies International (3)
or WGST 4120 - Women's Studies International (3)
INTL 3137 - International Human Rights (3)
or POLS 3137 International Human Rights (3)
INTL 3171 - Comparative Genocide (3)
or HIST 3171 - Comparative Genocide (3)
INTL 3172 - Political Repression and Rebellion in the Contemporary World (3)
or HIST 3172 - Political Repression and Rebellion in the Contemporary World (3)
AFRS 3218 - Racial Violence, Colonial Times to Present (3)
or HIST 3218 - Racial Violence, Colonial Times to Present (3)
AFRS 3220 - The Caribbean from Slavery to Independence (3)
or HIST 3180 - Caribbean History (3)
or LTAM 3220 - The Caribbean from Slavery to Independence (3)
AFRS 3230 - Poverty and Discrimination in African Diaspora in the Modern Era (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)
HIST 2105 - American Slavery and Emancipation (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 International Studies

A Minor in International 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.

Minor Requirements

Foundation Course (3 credit hours)

INTL 1101 Introduction to International Studies (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:

INTL 2100 - Introduction to Holocaust, Genocide, and Human Rights Studies (3)
or HGHR 2100 - Introduction to Holocaust, Genocide, and Human Rights Studies (3)
INTL 2121 - Introduction to Development Studies (3)
INTL 2131 - Peace, Conflict, and Identity (3)
or ANTH 2131 - Peace, Conflict, and Identity (3)
INTL 2201 - Introduction to Asian Studies (3)
INTL 2301 - Introduction to European Studies (3)
INTL 3000 - Topics in International Studies (3)
INTL 3111 Politics and Culture in Literature (3)
INTL 3112 - Globalization and Culture (3)
or ANTH 3112 Globalization and Culture (3)
INTL 3115 - Globalization and Digital Media (3)
or COMM 3126 - Globalization and Digital Media (3)
INTL 3116 - Cultures and Conflicts (3)
or ANTH 3116 - Cultures and Conflicts (3)
INTL 3117 - Narratives and Conflicts (3)
or ANTH 3117 - Narratives and Conflicts (3)
INTL 3120 - Women's Studies International (3)
or WGST 4120 - Women's Studies International (3)
INTL 3125 - Food and Globalization (3)
or ANTH 3125 - Food and Globalization (3)
INTL 3127 - Global Media (3)
or COMM 3127 - Global Media (3)
INTL 3131 - Diplomacy in a Changing World (3)
or POLS 3159 - Diplomacy in a Changing World (3)
INTL 3135 - Origins of Globalization (3)
ANTH 3135 - Origins of Globalization (3)
INTL 3136 - Globalization and Resistance (3)
or ANTH 3136 - Globalization and Resistance (3)
INTL 3137 - International Human Rights (3)
or POLS 3137 - International Human Rights (3)
INTL 3151 - International Political Economy (3)
or POLS 3151 - International Political Economy (3)
INTL 3161 - Migration and Borders in a Global World (3)
GEOG 3161 - Migration and Borders in a Global World (3)
INTL 3162 - Europe and the World (3)
or GEOG 3162 - Europe and the World (3)
INTL 3171 - Comparative Genocide (3)
or HIST 3171 - Comparative Genocide (3)
INTL 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. The Office of International Programs 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.

Grade Requirements

A GPA of 2.0 is required.

Department of History

history.charlotte.edu

Undergraduate Programs

- B.A. in History
  - History and 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*.)

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

- *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

Degree Requirements

General Education Courses (37-41 credit hours)

For details on required courses, refer to the General Education Program.

Foreign Language Requirement (0-8 credit hours)

For details, refer to the College of Liberal Arts & Sciences Foreign Language Requirements at the beginning of this section.

Introductory Courses (6 credit hours)

HIST 1121 - European History since 1660 (3)
HIST 1160 - U.S. History to 1865 (3)
or HIST 1161 - U.S. History Since 1865 (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 2600 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 2600 - History Skills Seminar (3) (W)

Historiography Seminar (3 credit hours)

Select one of the following:
HIST 4000 - Topics in American Historiography (3)
HIST 4001 - Topics in European Historiography (3) (O)
HIST 4002 - Topics in Non-Western Historiography (3) (O)
HIST 4003 - Topics in Transnational Historiography (3) (O)
HIST 4004 - Topics in Applied Historiography (3) (O)
HIST 4797 - Topics in Honors Historiography and Methodology (3) (O)
(permission required)

Senior Seminar (3 credit hours)

Select one of the following:
HIST 4600 - Senior Research Seminar (3) (W)
HIST 4799 - Honors Research and Thesis (3) (W)

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)

Additional Stipulations
Students working toward a second major may count up to 9 hours of credit from courses fulfilling requirements in that major towards requirements for the History degree. Students working toward a major/minor combination may count up to 6 credit hours from courses used in the minor towards requirements for the Major in History. These stipulations include cross-listed courses, regardless of program designation under which the course was taken. Exceptions may be approved by the Department Chair upon consultation with the other major program. Students exercising this option should be aware that the accuracy of the online degree audit may be affected.

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 2092 - Topics in Non-Western History (3) (W)
HIST 2200 - Asian Civilization (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 3092 - Topics in Non-Western History (3) (W)
HIST 3154 - Globalization in African History (3)
HIST 3155 - Health and Healing in Africa (3)
HIST 3160 - History of Modern China (3)
HIST 3162 - Revolutionary Movements in Modern China (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 3174 - Resistance and Adaptation: Indian Peoples Under Spanish Rule (3)
HIST 3175 - Reform, Riots, and Rebellions in Colonial Spanish America, 1692-1825 (3)
HIST 3176 - History of Mexico (3)
HIST 3177 - The Cuban Revolution (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) (W)
HIST 3190 - Slavery, Racism, and Colonialism in the African Diaspora (3)
HIST 4002 - Topics in Non-Western Historiography (3) (O)

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

Senior Seminar Course (3 credit hours)
HIST 4600 - Senior Research Seminar (3) (W)

Degree Total = 120 Credit Hours

Grade Requirements
Students must achieve a cumulative GPA of 2.0 in all history courses. Grades of C or above are required in HIST 2600 and either HIST 4000, HIST 4001, HIST 4002, HIST 4003, or HIST 4004.

Bachelor of Arts in History *with Teacher Licensure in History and Social Studies*

The Department of History, in collaboration with the College of Education, offers the premier track to a North Carolina Professional I status Teaching License 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
- *Minimum GPA:* 2.0
- *Declaration of Major:* Orientation/advising session required while declaring major
- *Transferable Credit Hours:* 24

Degree Requirements

General Education Courses (37-41 credit hours)
For details on required courses, refer to the General Education Program.

Foreign Language Requirement (0-8 credit hours)
For details, refer to the College of Liberal Arts & Sciences Foreign Language Requirements at the beginning of this section.

Introductory Courses (6 credit hours)
Licensure students need both HIST 1160 and HIST 1161 (one will count as a Restrictive Elective course).

HIST 1121 - European History Since 1660 (3)
HIST 1160 - U.S. History to 1865 (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 2600 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 2600 - History Skills Seminar (3) (W)

Historiography Seminar (3 credit hours)
Select one of the following:
HIST 4000 - Topics in American Historiography (3)
HIST 4001 - Topics in European Historiography (3) (O)
HIST 4002 - Topics in Non-Western Historiography (3) (O)
HIST 4003 - Topics in Transnational Historiography (3) (O)
HIST 4004 - Topics in Applied Historiography (3) (O)
HIST 4797 - Topics in Honors Historiography and Methodology (3) (O) *(permission required)*

Senior Seminar (3 credit hours)
HIST 4600 - Senior Research Seminar (3) (W)

Restricted Elective Courses (15 credit hours)
History 1000/2000/3000 Level Course (3 credit hours)
HIST 1161 - U.S. History Since 1865 (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)

Social Studies Courses (12 credit hours)
ECON xxxx - Economics Elective (3)
GEOG 1101 - World Regional Geography (3)
POLS 1110 - American Politics (3)
POLS 1130 - Comparative Politics (3)
or POLS 1150 - International 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)

Minor in Secondary Education (32 credit hours)
Students must have a Minor in Secondary Education to obtain teaching licensure.

Admission Requirements
- 45 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.

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 2092 - Topics in Non-Western History (3) (W)
HIST 2200 - Asian Civilization (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 3092 - Topics in Non-Western History (3) (W)
HIST 3154 - Globalization in African History (3)
HIST 3155 - Health and Healing in Africa (3)
HIST 3160 - History of Modern China (3)
HIST 3162 - Revolutionary Movements in Modern China (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 3174 - Resistance and Adaptation: Indian Peoples Under Spanish Rule (3)
HIST 3175 - Reform, Riots, and Rebellions in Colonial Spanish America, 1692-1825 (3)
HIST 3176 - History of Mexico (3)
HIST 3177 - The Cuban Revolution (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) (W)
HIST 3190 - Slavery, Racism, and Colonialism in the African Diaspora (3)
HIST 4002 - Topics in Non-Western Historiography (3) (O)

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

Senior Seminar Course (3 credit hours)
HIST 4600 - Senior Research Seminar (3) (W)

Degree Total = 120 Credit Hours

Grade Requirements
Students must achieve a cumulative GPA of 2.0 in all History courses. Grades of C or above are required in HIST 2600 and either HIST 4000, HIST 4001, HIST 4002, HIST 4003, or HIST 4004. 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 2.5 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
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 2600 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 2600 and/or have an overall and History GPA of 3.0 or above, upon recommendation of their HIST 2600 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.

Course Requirements

HIST 4797 - Topics in Honors Historiography and Methodology (3) (O)
HIST 4799 - Honors Research and Thesis (3) (W)

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, HIST 4003, or HIST 4004; and completion of HIST 4799 will fulfill the requirement for HIST 4600.

Certification 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.

Minor Requirements

Foundation Course (3 credit hours)
HIST 1121 - European History Since 1660 (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 2092 - Topics in Non-Western History (3) (W)
HIST 2200 - Asian Civilization (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 3092 - Topics in Non-Western History (3) (W)
HIST 3154 - Globalization in African History (3)
HIST 3155 - Health and Healing in Africa (3)
HIST 3160 - History of Modern China (3)
HIST 3162 - Revolutionary Movements in Modern China (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 3174 - Resistance and Adaptation: Indian Peoples Under Spanish Rule (3)
HIST 3175 - Reform, Riots, and Rebellions in Colonial Spanish America, 1692-1825 (3)
HIST 3176 - History of Mexico (3)
HIST 3177 - The Cuban Revolution (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) (W)
HIST 3190 - Slavery, Racism, and Colonialism in the African Diaspora (3)
HIST 4002 - Topics in Non-Western Historiography (3) (O)

Grade Requirements

Students must obtain a minimum GPA of 2.0 in HIST courses counted toward the minor. Before taking HIST 2600, 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

- 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
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree

Double-Counted Courses

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).

More Information

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

- Minimum high school GPA of 3.75 (on a 4.0 scale)
- Minimum score of 1220 on SAT

Continued Enrollment Requirements

Students must maintain a strong academic record at both the undergraduate and graduate levels with a cumulative GPA of 3.0 or above.

Double-Counted Courses

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).

More Information

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 Latin American Studies
  - Honors Program
- Minor in American Studies
- Minor in Capitalism Studies
- Minor in Film Studies
- Minor in Gerontology
- Minor in Health & Medical Humanities
- Minor in Humanities, Technology, and Science
- Minor in Latin American Studies
- Minor in Legal Studies
- Minor in Southern 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.

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.

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. 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 2208 - Education and African Americans (3)
AFRS 2215 - Black Families in the United States (3) (W)
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 3280 - Blacks in Urban America (3)
AFRS 3158 - Gender and African American Literature (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 3000 - Seminar in American Studies (3) (O,W)
AMST 3020 - Seminar in American Studies (3) (W)
AMST 3050 - Topics in American Studies (3)
AMST 3090 - Topics in American Film (3)
AMST 3100 - Introduction to American Studies (3)
AMST 3210 - Childhood in America (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)
ANTH 4110 - American Ethnic Cultures (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 Mass Media (3)
COMM 3115 - Health Communication (3)
COMM 3120 - Communication and Mass Media (3)
COMM 3121 - Mass Communication and Society (3)
COMM 3130 - Communication and Public Advocacy (3)
COMM 3131 - African American Oratory (3)
COMM 4101 - Media and the Law (3)
COMM 4102 - Federal Interpretation of the First Amendment (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 3322 - Juvenile 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) (O,W)
CJUS 3380 - Law Enforcement Behavioral Systems (3)
CJUS 4340 - Seminar on Sexual Assault (3) (O)
CJUS 4350 - Victims and the Criminal Justice System (3) (O)
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 3105 - Industrial Relations (3)
ECON 3106 - Labor Economics (3)
ECON 3107 - Employment Law (3)
ECON 3115 - Money and Banking (3)
ECON 3122 - Intermediate Microeconomics (3)
ECON 3123 - Intermediate Macroeconomics (3)
ECON 3131 - Economic History of the United States (3)
ECON 3141 - Health Economics (3)
ECON 3151 - Law and Economics (3)

English
ENGL 2104 - Major American Writers (3)
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 3232 - Early 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 4139 - Early American Literature (3)
ENGL 4140 - American Literature of the Romantic Period (3)
ENGL 4141 - American Literature of the Realist and Naturalist Periods (3)
ENGL 4142 - Modern American Literature (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 - The City and Its Region (3)
GEOG 3110 - Urban Political Geography (3)
GEOG 3115 - Urban Transportation Problems (3) (W)
GEOG 3150 - Manufacturing Geography (3)
GEOG 3200 - Land Use Planning (3)
GEOG 3205 - Internal Structure of the City (3)
GEOG 3210 - Regional Planning (3)
GEOG 4108 - Sport, Place, and Development (3) (W)
GEOG 4209 - Small Town Planning (3)

Gerontology
GRNT 2100 - Aging and the Lifecourse (3) (SL)
GRNT 3132 - Aging and Culture (3)
GRNT 3267 - Sociology of Dying, Death and Bereavement (3)
GRNT 4260 - Women: Middle Age and Beyond (3)

History
HIST 1160 - U.S. History to 1865 (3)
HIST 1161 - U.S. History Since 1865 (3)
HIST 2101 - American Business History (3)
HIST 2105 - American Slavery and Emancipation (3)
HIST 2120 - American Military History (3)
HIST 2125 - Democracy in America: A Historical Perspective (3)

HIST 2130 - Introduction to Historic Preservation (3)
HIST 2135 - Introduction to Museums and Historic Sites (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 3241 - United States Social History to 1860 (3)
HIST 3242 - United States Social History since 1860 (3)
HIST 3252 - United States in the 20th Century, 1932 to the Present (3)
HIST 3256 - United States Foreign Relations, 1901 to the Present (3)
HIST 3260 - The United States and Latin America (3)
HIST 3280 - Blacks in Urban America (3)
HIST 3281 - American Cities (3)
HIST 3288 - History of the American West (3)
HIST 4000 - Topics in American History (3) (O)

Music
MUSC 1104 - The History of Rock Music (3)
MUSC 1105 - The Evolution of Jazz (3)

Philosophy
PHIL 3130 - American Philosophy (3)
PHIL 3910 - Philosophy of War and Peace (3)

Political Science and Public Administration
POLS 1110 - 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) (O,W)

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 3173 - Criminology (3)
SOCY 3175 - Crowds, Riots, and Disasters (3)
SOCY 3267 - Sociology of Dying, Death, and Bereavement (3)
SOCY 4110 - Sociology of Aging (3)
SOCY 4112 - Sociology of Work (3)
SOCY 4124 - Sociology of the Community (3)
SOCY 4125 - Urban Sociology (3)
SOCY 4131 - Family Policy (3)
SOCY 4134 - Families and Aging (3)
SOCY 4135 - Sociology of Education (3)
SOCY 4150 - Older Individual and Society (3)
SOCY 4165 - Sociology of Women (3) (W)
SOCY 4168 - Sociology of Mental Health and Illness (3) (W)

Social Work
SOWK 3120 - Diversity and Populations-at-Risk (3)
SOWK 3201 - Foundations of Social Welfare (3) (W)
SOWK 3202 - Social Welfare Policy (3)
SOWK 4100 - Ethnicity and Aging (3)

Women's and Gender Studies
WGST 1101 - Introduction to Women's Studies (3)
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) (W)
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 4165 - Sociology of Women (3)
WGST 4260 - Women: Middle Age and Beyond (3)

Minor Total = 18 Credit Hours

Grade Requirements

All students must have a GPA of at least 2.0 in courses applied to the minor.

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 demanding 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

The minor is open to all students at UNC Charlotte.

Minor Requirements

Introductory Courses (6 credit hours)

CAPI 2100 Introduction to Capitalism Studies (3)
ECON 1101 Economics of Social 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, INTL, HIST, POLS, and SOCY.

AFRS 3190 - Political Economy of the Caribbean (3)
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 3800 - Independent Study (3)
CAPI 4050 - Topics in Capitalism Studies (3)
CHNS 3225 - Short-Term Abroad (3)
ECON 1101 - Economics of Social Issues (3)
ECON 2101 - Principles of Economics - Macro (3)
ECON 2102 - Principles of Economics - Micro (3)
ECON 3131 - Economic History of the United States (3)
ECON 3170 - Ethics and Global Capitalism (3)
ECON 3171 - International Business Economics (3)
GEOG 2105 - Introduction to Economic Geography (3)
GEOG 3105 - Geography of the Global Economy (3)
GEOG 4108 - Sport, Place, and Development (3) (W)
GEOG 4240 - Geography of Knowledge and Information (3)
GERM 3670 - Seminar: German-American Culture for Business and Engineering I (English) (3) (W)
GERM 3671 - Seminar: German-American Culture for Business and Engineering I (German) (3)
GERM 3680 - Seminar: German-American Culture for Business and Engineering II (English) (3)
GERM 3681 - Seminar: German-American Culture for Business and Engineering II (German) (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)
INTL 3135 - Origins of Globalization (3)
INTL 3151 - International Political Economy (3)
JAPN 3130 - Business and Culture in Japan (3)
PHIL 3810 - Social and Political Philosophy (3)
POLS 3155 - Latin American Political Economy (3)
PSYC 2171 - Introduction to Industrial/Organizational Psychology (3)
PSYC 3174 - Organizational Psychology (3)
RELS 3134 - Religion in the Contemporary United States (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 3029 - Cultural Dimension of Doing Business with Spanish-Speaking Countries (3)
SPAN 3030 - Business and Culture in the Hispanic Caribbean Region (3) (W)
WGST 3230 - Gender, Work, and Money (3)

Minor Total = 18 Credit Hours

Grade Requirements

Students are required to complete the Introductory courses (CAPI 2100; and ECON 1101 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.

Minor Requirements

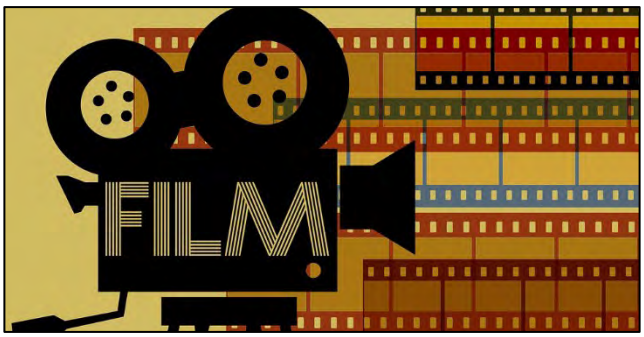
The Minor in Film Studies requires the completion of 21 credit hours of approved courses.

Required Courses (6 credit hours)

FILM 2201 - Introduction to Film (3)
FILM 4690 - Capstone in Film Studies (3)

Elective 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 Mass Media (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 (3) (W) *(Includes screenwriting)*
FILM 3051 - Topics in Film (3) *(Includes video production)*
FILM 3120 - The Fundamentals of Video/Film Production (3)
FILM 3121 - Cinematography (3)
FILM 3220 - Introduction to Screenwriting (3) (W)
FILM 3221 - Intermediate Screenwriting: Feature Film (3) (W)
FILM 3800 - Directed Project in Film or Video (1 to 3)
FILM 4120 - Production and Directing (3)
FILM 4220 - Film Festivals: Production and Theory (3)
FILM 4410 - Professional Internship in Film Studies (1 to 6)
GERM 3160 - Survey of German Film (3) (O,W)
HIST 3010 - Non-Western History and Culture through Film (3)
HIST 3011 - History and Culture through Film (3)
JAPN 3160 - Topics in Japanese Film (3) (W)
LACS 3050 - Topics in Language, Literature, and Culture (3) (W)
(French, German, Italian, Japanese, etc. film topic)
LACS 3160 - European Cinema (3) (O,W)
RELS 2246 - Jesus on the Silver Screen (3)
RELS 3212 - Religion, Media, and Film (3) (W)
THEA 2320 - Playwriting I (3)
THEA 4001 - Topics in Theatre (1 to 6) (W) *(Fundamentals of Film Production and other topics)*

Minor Total = 21 Credit Hours



Minor in Film Studies with an Undergraduate Certificate in Video Production

Students have the option to earn a Certificate in Video Production with the Minor in Film Studies.

Minor/Certificate Requirements

The Minor in Film Studies with a Certificate in Video Production requires the completion of 24 credit hours of approved courses.

Required Courses (12 credit hours)
FILM 2201 - Introduction to Film (3)
FILM 3120 - The Fundamentals of Video/Film Production (3)
FILM 3220 - Introduction to Screenwriting (3)
FILM 4690 - Capstone in Film Studies (3)

Elective Production Courses (6 credit hours)
Select two of the following:
FILM 3121 - Cinematography (3)
FILM 3221 - Intermediate Screenwriting: Feature Film (3)
FILM 3800 - Directed Project in Film or Video (1 to 3)
FILM 4120 - Production and Directing (3)
FILM 4220 - Film Festivals: Production and Theory (3)
FILM 4410 - Professional Internship in Film Studies (1 to 6) *(No more than 3 credit hours may count toward the minor)*

Elective Interdisciplinary Courses (6 credit hours)
Select two of the following:
FILM 3050 - Topics in Film (3) (W) *(Screenwriting topics)*
FILM 3051 - Topics in Film (3) *(Video production topics)*
FILM 4410 - Professional Internship in Film Studies (1 to 6)
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 Mass Media (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) (O,W)
HIST 3010 - Non-Western History and Culture through Film (3)
HIST 3011 - History and Culture through Film (3)
JAPN 3140 - Anime and Japanese Popular Culture (3)
JAPN 3160 - Topics in Japanese Film (3) (W)
JAPN 3170 - Anime and Japanese Popular Culture (3) (W)
LACS 3050 - Topics in Language, Literature, and Culture (3) (W)
(French, German, Italian, Japanese, etc. film topic)
LACS 3160 - European Cinema (3) (O,W)
LBST 1102 - The Arts and Society: Film (3)
POLS 3128 - Politics and Film (3)
RELS 2158 - Bollywood and Religion (3)
RELS 3212 - Religion, Media, and Film (3) (W)
RELS 2246 - Jesus on the Silver Screen (3)
SPAN 3160 - Studies in Hispanic Film (3) (W)
THEA 2290 - Acting on Camera I (3)
THEA 2320 - Playwriting I (3)
THEA 4001 - Topics in Theatre (1 to 6) (W) *(Fundamentals of Film Production and other topics)*
WGST 3170 - Female Adolescence in Film (3)

Total = 24 Credit Hours

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.

Certificate Requirements

The Certificate in Video Production requires the completion of 18 credit hours of approved courses.

Required Courses (6 credit hours)
FILM 2201 - Introduction to Film (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 - Cinematography (3)
FILM 3220 - Introduction to Screenwriting (3) (W)
FILM 3221 - Intermediate Screenwriting: Feature Film (3) (W)
FILM 4120 - Production and Directing (3)
FILM 4121 - Documentary Film Production (3)
FILM 4220 - Film Festivals: Production and Theory (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 traditional 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 older persons.

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.

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 2124 - Psychology of Aging (3)
or PSYC 2124 - 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) (O)
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 3132 - Aging and Culture (3) (W)
or ANTH 3132 - Aging and Culture (3) (W)
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 4134 - Families and Aging (3)
or SOCY 4134 - Families and Aging (3)
GRNT 4150 - Older Individual and Society (3)
or SOCY 4150 - Older Individual and Society (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 4270 - Intergenerational Relationships and Programs (3)
GRNT 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)
GRNT 4364 - Elders and the Criminal Justice System (3)
or CJUS 4364 - Elders and the Criminal Justice System (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 3230 - 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 - Senior Seminar and Field Experience in Aging (3) (W)

Minor Total = 18 Credit Hours

Grade 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.

Notes
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 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 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.

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
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree

Double-Counted Courses
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 courses may not double count toward the Minor in Gerontology.

More Information
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, on 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 is also intended to enhance personal reflection, critical thinking skills, and the ability to understand the personal, social, historical, and cultural contexts of health, illness, and medical care. The minor is supported by faculty and courses across the College of Liberal Arts & Sciences, including from departments of and majors in Africana Studies, Anthropology, Chemistry, Communication Studies, Criminal Justice, History, Language and Cultural Studies, and Philosophy.

Minor Requirements

The Minor in Health & Medical Humanities requires 18 credit hours. Students take two required courses. Between these two courses, students take 4 approved elective courses from a range of 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 in 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 and 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 3261 - Psychology of the Black Experience (3)
AFRS 3278 - Race in the History of Brazil (3)
AFRS 3692 - Colloquium (3) (W)
AFRS 4050 - Topics in Africana Studies (3)
AFRS 4630 - Environmental and Public Health in Africa (3) (O)
AFRS 4652 - Race, Health, and the African Diaspora (3) (W)
AMST 2050 - Topics in American Studies (3) *(Topics: Race in the U.S. and Latin America)*
AMST 3000 - Seminar in American Studies (3) (O,W) *(Topics: Love to Love You Baby: The Sexual Revolution of the 1960s and 1970s; Difference in America; Southern Foodways; Back in the World: The Vietnam War in American Culture)*
AMST 3020 - Seminar in American Studies (3) (W) *(Topics: Food in America; Ghosts in American Film and Culture)*
AMST 3050 - Topics in American Studies (3)
ANTH 2020 - Topics in Cultural Anthropology (3) *(Topics: Religion and Food)*
ANTH 2122 - Beliefs, Symbols, and Rituals (3)
ANTH 2126 - World Population Problems (3) (W)
ANTH 2127 - Environmental 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 3050 - Topics in Archaeology (3) *(Topics: Cemetery Studies)*
ANTH 3090 - Topics in Anthropology (1 to 3) *(Topics: Anthropology of Childhood, Anthropology of Violence, Cemetery Studies, Human Osteology)*
ANTH 3122 - Culture, Health, and Disease (3) (W)
ANTH 3125 - Food and Globalization (3)
ANTH 3143 - Race and Anthropology (3)
ANTH 3144 - Evolutionary Anthropology (3)
ANTH 3145 - Anthropological Genetics (3)
ANTH 3222 - Culture, Health, and Disease (3)
ANTH 4090 - Topics in Anthropology (1 to 3)
ANTH 4131 - Culture, Pregnancy, and Birth (3)
ANTH 4140 - Field Biology of the Primates (3)
ANTH 4141 - Forensic Anthropology (3)
BIOL 1110 - Principles of Biology I (3)
BIOL 1115 - Principles of Biology II (3)
CHEM 1111 - Chemistry in Today's Society (3)

CJUS 3366 - Domestic Violence (3)
CJUS 4340 - Seminar on Sexual Assault (3) (O)
CJUS 4350 - Victims and the Criminal Justice System (3) (O)
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) (O)
CJUS 4372 - Drug Analytics (3) (W)
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 3125 - Older Worker and Retirement (3)
or PSYC 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 and Medical Humanities (3)
HHUM 3030 – Health and Medical Humanities Study Abroad (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)*
LTAM 2003 - Topics in Latin American Studies (3) *(Topics: Arts and Literature: Race in the U.S. and Latin America)*
PHIL 1001 - Philosophy of Death and Dying (3)
PHIL 3210 - Ethical Theory (3)
PHIL 3230 - Healthcare Ethics (3)
PHIL 3520 - Philosophy of Science (3)
PHIL 3920 - Philosophy of Technology (3)
PHIL 3930 - Philosophy of Body (3)
PHIL 3990 - Topics and Identity/Society (3) *(Topics: Ecofeminism; Philosophy of Sport)*
RELS 2000 - Topics in Religious Studies (1 to 3) *(Topics: Religions and Food; Racism and Religion; Death and the Afterlife in Asian Religions)*
SOCY 2090 - Topics in Sociology (1 to 3) *(Topics: Sociology of Gender)*
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 3261 - Human Sexuality (3)
SPAN 3222 - Spanish for Medical and Healthcare (3)
SPAN 4050 - Selected Topics in Spanish (1 to 3) *(Topic: Medical Interpreting)*
WGST 2050 - Topics in Women's Studies (1 to 3)
WGST 2130 - Masculinity and Manhood (3)
WGST 2160 - Introduction to LGBTQ+ Studies (3)
WGST 3050 - Topics in Women's Studies (3)
WGST 3102 - Changing Realities of Women's Lives (3) (W)
WGST 3140 - Domestic Violence (3)
WGST 3310 - Gender and Sexuality (3)

Capstone Course (3 credit hours)
HHUM 4800 - Health and Medical Humanities Portfolio Capstone (3)

Minor Total = 18 Credit Hours

Grade 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.

Humanities, Technology, and Science

Minor in Humanities, Technology, and Science
The interdisciplinary Minor in Humanities, Technology, and Science examines the interrelationships among three of the major dimensions of our culture: its science, its technology, and its humanistic orientation.

Minor Requirements
A minimum of 18 credit hours are required for this minor.

Foundation Course (3 credit hours)
HTAS 2100 Introduction to Humanities, Technology, and Science (3)

History and/or Philosophy of Science or Technology Courses (6 credit hours)
HIST 2110 - Technology and Science in Society I: Before the Industrial Revolution (3)
HIST 2111 - Technology and Science in Society II: Since the Industrial Revolution (3)
PHIL 3520 - Philosophy of Science (3)
PHIL 3920 - Philosophy of Technology (3)

Elective Courses (9 credit hours)
ANTH 2151 - Introduction to Archaeology (3)
ANTH 3122 - Culture, Health, and Disease (3) (W)
ANTH 3124 - Food, Nutrition, and Culture (3)
ANTH 3152 - Early Civilizations (3)
ANTH 3222 - Culture, Health, and Disease (3)
CJUS 3354 - Punishment and Freedom (3)
CJUS 4362 - Computer Crime (3)
COMM 3052 - Topics in Mass Media (3)
COMM 3120 - Communication and Mass Media (3)
COMM 3121 - Mass Communication and Society (3)
ENGL 2116 - Introduction to Technical Communication (3) (W)
ENGL 3180 - Language and Digital Technology (3)
ENGL 4008 - Topics in Advanced Technical Communication (3)
ESCI 2101 - The Environmental Dilemma (3)
GEOG 3250 - World Food Problems (3)
HIST 2120 - American Military History (3)
HIST 2140 - Disease and Medicine in History (3)
HIST 3155 - Health and Healing in Africa (3)
HONR 3701 - Science, Technology, and Human Values (3)
HTAS 3800 - Independent Study in Humanities, Technology, and Science (3)
ITIS 3130 - Human-Centered Design (3)
ITSC 3688 - Computers and Their Impact on Society (3) (O,W)
POLS 3154 - Cyberspace and Politics (3)

Other courses that do not appear on the above list, especially topics and independent study courses, will be approved if they are pertinent to the student's program and deal with an HTAS topic. Examples of such courses approved by their departments for enrollment by HTAS students are:

ARCH 4050 - Architecture Topics (1 to 4)
HIST 3001 - Topics in European History (3)
HIST 3002 - Topics in Non-Western History (3)
POLS 3030 - Topics in Comparative or International Politics (1 to 4)
THEA 4001 - Topics in Theatre (1 to 6) (W)

Minor Total = 18 Credit Hours

Interdisciplinary Studies

Bachelor of Arts in Interdisciplinary Studies *with Concentration in Capitalism Studies*

The B.A. in Interdisciplinary Studies offers concentrations in the following areas: Capitalism Studies, Health & Medical Humanities, and Women's and Gender Studies. The program allows students to combine an interdisciplinary minor in one of these areas with in-depth coursework in a disciplinary department to create an individually designed major reflecting their own interests. Through a 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

All students must meet UNC Charlotte requirements for admission for undergraduate students. In addition, students must have a 2.0 cumulative GPA unless it is the student's first semester at UNC Charlotte and a cumulative GPA has not been established. 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.

Degree Requirements

General Education (37-43 credit hours)
For details on required courses, refer to the General Education Program.

Foreign Language Requirement (6-8 credit hours)
For details on required courses, refer to the College of Liberal Arts & Sciences Foreign Language Requirement.

Major Courses (36 credit hours)
Capitalism Studies Minor Courses (18 credit hours)
Introductory Courses (6 credit hours)
CAPI 2100 - Introduction to Capitalism Studies (3)
ECON 1101 - Economics of Social Issues (3)
or ECON 2101 - Principles of Economics - Macro (3)

Research Methods Course (3 credit hours)
IDST 3100 - Interdisciplinary Research Methods (3) (O,W)

Capstone/Practicum Course (3 credit hours)
CAPI 4050 - Topics 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, INTL, HIST, POLS, and SOCY.

AFRS 3190 - Political Economy of the Caribbean (3)
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 4050 - Topics in Capitalism Studies (3)
CHNS 3225 - Short-Term Abroad (3)
ECON 1101 - Economics of Social Issues (3)
ECON 2101 - Principles of Economics - Macro (3)
ECON 2102 - Principles of Economics - Micro (3)
ECON 3131 - Economic History of the United States (3)
ECON 3170 - Ethics and Global Capitalism (3)
ECON 3171 - International Business Economics (3)
GEOG 2105 - Introduction to Economic Geography (3)
GEOG 3105 - Geography of the Global Economy (3)
GEOG 4108 - Sport, Place, and Development (3) (W)
GEOG 4240 - Geography of Knowledge and Information (3)
GERM 3670 - Seminar: German-American Culture for Business and Engineering I (English) (3) (W)
GERM 3671 - Seminar: German-American Culture for Business and Engineering I (German) (3)
GERM 3680 - Seminar: German-American Culture for Business and Engineering II (English) (3)
GERM 3681 - Seminar: German-American Culture for Business and Engineering II (German) (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)
INTL 3135 - Origins of Globalization (3)
INTL 3151 - International Political Economy (3)
JAPN 3130 - Business and Culture in Japan (3)
PHIL 3810 - Social and Political Philosophy (3)
POLS 3155 - Latin American Political Economy (3)
PSYC 2171 - Introduction to Industrial/Organizational Psychology (3)
PSYC 3174 - Organizational Psychology (3)
RELS 3134 - Religion in the Contemporary United States (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 3029 - Cultural Dimension of Doing Business with Spanish-Speaking Countries (3)
SPAN 3030 - Business and Culture in the Hispanic Caribbean Region (3) (W)
WGST 3230 - Gender, Work, and Money (3)

Disciplinary Depth Coursework (18 credit hours)
Select 18 credit hours in a disciplinary field of study that complements your concentration. A maximum of two courses (6 credit hours) from a student's disciplinary depth coursework can count toward the electives in their Interdisciplinary Studies concentration or toward another declared major or minor. An alternative course of study may be approved by the Director of Interdisciplinary Studies.

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade Requirements
Students must maintain a minimum GPA of 2.0 to continue in the major.

Bachelor of Arts in Interdisciplinary Studies *with Concentration in Health & Medical Humanities*

The B.A. in Interdisciplinary Studies offers concentrations in the following areas: Capitalism Studies, Health & Medical Humanities, and Women's and Gender Studies. The program allows students to combine an interdisciplinary minor in one of these areas with in-depth coursework in a disciplinary department to create an individually designed major reflecting their own interests. Through a 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
All students must meet UNC Charlotte requirements for admission for undergraduate students. In addition, students must have a 2.0 cumulative GPA unless it is the student's first semester at UNC Charlotte and a cumulative GPA has not been established. 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.

Degree Requirements
General Education (37-43 credit hours)
For details on required courses, refer to the General Education Program.

Foreign Language Requirement (6-8 credit hours)
For details on required courses, refer to the College of Liberal Arts & Sciences Foreign Language Requirement.

Major Courses (36 credit hours)
Health & Medical Humanities Minor Courses (18 credit hours)
Introductory Course (3 credit hours)
HHUM 2100 - Introduction to Health and Medical Humanities (3)

Research Methods Course (3 credit hours)
IDST 3100 - Interdisciplinary Research Methods (3) (O,W)

Capstone/Practicum Course (3 credit hours)
HHUM 4800 - Health and 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 3261 - Psychology of the Black Experience (3)
AFRS 3278 - Race in the History of Brazil (3)
AFRS 3692 - Colloquium (3) (W)
AFRS 4050 - Topics in Africana Studies (3)
AFRS 4630 - Environmental and Public Health in Africa (3) (O)
AFRS 4652 - Race, Health, and the African Diaspora (3) (W)
AMST 2050 - Topics in American Studies (3) *(Topics: Race in the U.S. and Latin America)*
AMST 3000 - Seminar in American Studies (3) (O,W) *(Topics: Love to Love You Baby: The Sexual Revolution of the 1960s and 1970s; Difference in America; Southern Foodways; Back in the World: The Vietnam War in American Culture)*
AMST 3020 - Seminar in American Studies (3) (W) *(Topics: Food in America; Ghosts in American Film and Culture)*
AMST 3050 - Topics in American Studies (3)
ANTH 2020 - Topics in Cultural Anthropology (3) *(Topics: Religion and Food)*
ANTH 2122 - Beliefs, Symbols, and Rituals (3)
ANTH 2126 - World Population Problems (3) (W)
ANTH 2127 - Environmental 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 3050 - Topics in Archaeology (3) *(Topics: Cemetery Studies)*
ANTH 3090 - Topics in Anthropology (1 to 3) *(Topics: Anthropology of Childhood, Anthropology of Violence, Cemetery Studies, Human Osteology)*
ANTH 3122 - Culture, Health, and Disease (3) (W)
ANTH 3125 - Food and Globalization (3)
ANTH 3143 - Race and Anthropology (3)
ANTH 3144 - Evolutionary Anthropology (3)
ANTH 3145 - Anthropological Genetics (3)
ANTH 3222 - Culture, Health, and Disease (3)
ANTH 4090 - Topics in Anthropology (1 to 3)
ANTH 4131 - Culture, Pregnancy, and Birth (3)
ANTH 4140 - Field Biology of the Primates (3)
ANTH 4141 - Forensic Anthropology (3)
BIOL 1110 - Principles of Biology I (3)
BIOL 1115 - Principles of Biology II (3)
CHEM 1111 - Chemistry in Today's Society (3)

CJUS 3366 - Domestic Violence (3)
CJUS 4340 - Seminar on Sexual Assault (3) (O)
CJUS 4350 - Victims and the Criminal Justice System (3) (O)
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) (O)
CJUS 4372 - Drug Analytics (3) (W)
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 3125 - Older Worker and Retirement (3)
or PSYC 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 and Medical Humanities (3)
HHUM 3030 - Health and Medical Humanities Study Abroad (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)*
LTAM 2003 - Topics in Latin American Studies (3) *(Topics: Arts and Literature: Race in the U.S. and Latin America)*
PHIL 1001 - Philosophy of Death and Dying (3)
PHIL 3210 - Ethical Theory (3)
PHIL 3230 - Healthcare Ethics (3)
PHIL 3520 - Philosophy of Science (3)
PHIL 3920 - Philosophy of Technology (3)
PHIL 3930 - Philosophy of Body (3)
PHIL 3990 - Topics and Identity/Society (3) *(Topics: Ecofeminism; Philosophy of Sport)*
RELS 2000 - Topics in Religious Studies (1 to 3) *(Topics: Religions and Food; Racism and Religion; Death and the Afterlife in Asian Religions)*
SOCY 2090 - Topics in Sociology (1 to 3) *(Topics: Sociology of Gender)*
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 3261 - Human Sexuality (3)
SPAN 3222 - Spanish for Medical and Healthcare (3)
SPAN 4050 - Selected Topics in Spanish (1 to 3) *(Topic: Medical Interpreting)*
WGST 2050 - Topics in Women's Studies (1 to 3)
WGST 2130 - Masculinity and Manhood (3)
WGST 2160 - Introduction to LGBTQ+ Studies (3)
WGST 3050 - Topics in Women's Studies (3)
WGST 3102 - Changing Realities of Women's Lives (3) (W)
WGST 3140 - Domestic Violence (3)
WGST 3310 - Gender and Sexuality (3)

Disciplinary Depth Coursework (18 credit hours)
Select 18 credit hours in a disciplinary field of study that complements your concentration. A maximum of two courses (6 credit hours) from a student's disciplinary depth coursework can count toward the electives in their Interdisciplinary Studies concentration or toward another declared major or minor. An alternative course of study may be approved by the Director of Interdisciplinary Studies.

Culminating Experience (3 credit hours)
HHUM 4800 - Health and Medical Humanities Portfolio Capstone (3)

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade 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 offers concentrations in the following areas: Capitalism Studies, Health & Medical Humanities, and Women's and Gender Studies. The program allows students to combine an interdisciplinary minor in one of these areas with in-depth coursework in a disciplinary department to create an individually designed major reflecting their own interests. Through a 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
All students must meet UNC Charlotte requirements for admission for undergraduate students. In addition, students must have a 2.0 cumulative GPA unless it is the student's first semester at UNC Charlotte and a cumulative GPA has not been established. 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.

Degree Requirements
General Education (37-43 credit hours)
For details on required courses, refer to the General Education Program.

Foreign Language Requirement (6-8 credit hours)
For details on required courses, refer to the College of Liberal Arts & Sciences Foreign Language Requirement.

Major Courses (36 credit hours)
Women's and Gender Studies Minor Courses (18 credit hours)
Introductory Courses (6 credit hours)
WGST 1101 - Introduction to Women's Studies (3)
WGST 3220 - Feminist Thought (3) (W)
or WGST 3221 - Feminist Thought (3)

Research Methods Course (3 credit hours)
IDST 3100 - Interdisciplinary Research Methods (3) (O,W)

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) (W)
AFRS 3050 - Topics in Africana Studies (3) *(Gender in a Transforming Africa)*
AFRS 3158 - Gender and African American Literature (3)
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 4340 - Seminar on Sexual Assault (3) (O)
CJUS 4363 - Gender, Race, and Justice (3) (O)
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)*
HIST 3131 - History of Sexuality (3)
NURS 4191 - Women's Health Issues (3)
PHIL 3820 - Feminist Philosophy (3)
PSYC 2126 - Introduction to the Psychology of Women and Gender (3)
RELS 3000 - Special Topics in Religious Studies (3) *(Religion and Gender)*
RELS 3111 - Women in Judaism (3)
RELS 3215 - Religion and Sexuality (3)
SOCY 2132 - Sociology of Marriage and the Family (3)
SOCY 2163 - Sociology of Gender (3) (W)
SOCY 3261 - Human Sexuality (3)
SOCY 4090 - Topics in Sociology (1 to 3) *(New Theoretical Approaches to Gender)*
SOCY 4165 - Sociology of Women (3) (W)
SPAN 3019 - Hispanic Women Writers in English Translation (3) (W)
THEA 4001 - Topics in Theatre (1 to 6) (W) *(Women's Writings Onscreen; or Violent Film Females)*

Disciplinary Depth Coursework (18 credit hours)
Select 18 credit hours in a disciplinary field of study that complements your concentration. A maximum of two courses (6 credit hours) from a student's disciplinary depth coursework can count toward the electives in their Interdisciplinary Studies concentration or toward another declared major or minor. An alternative course of study may be approved by the Director of Interdisciplinary Studies.

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade 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
- *Minimum GPA:* 2.0
- *Other:* 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 (37-41 credit hours)
For details on required courses, refer to the General Education Program.

Foreign Language Courses (6 credit hours)
Students are expected to demonstrate competency in either Spanish (SPAN) or Portuguese (PORT) by completing the equivalent of two courses at the 3000-level or above. The program director may waive this requirement for native and heritage speakers following a determination of equivalent foreign language proficiency.

Foundation Course (3 credit hours)
LTAM 1100 Introduction to Latin America (3 hours)

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 3110 - Black Families in the Diaspora (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 3190 - Political Economy of the Caribbean (3)
LTAM 3220 - The Caribbean from Slavery to Independence (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 3274 - Resistance and Adaptation: Indian Peoples Under Spanish Rule (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)

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:
LTAM 2003 - Topics in Latin American Studies (3)
LTAM 3003 - Advanced Topics in Latin American Studies (3)
LTAM 3300 - Maya Art (3)
LTAM 3301 - Mexica (Aztec) Art (3)
LTAM 3302 - Andean 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 3360 - Studies in Hispanic Film (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 4322 - Studies in Advanced Business Spanish (3)
LTAM 4350 - Studies in Latin American Literature (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 1100, 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
As needed to complete the credit hours required for graduation.

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

Grade 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
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. 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.

Minor Requirements
Foundation Course (3 credit hours)
LTAM 1100 - Introduction to Latin America (3)

Foreign Language Requirement
Students are expected to demonstrate competency in Portuguese or Spanish by completion of two courses at the 2000-level or above. Additional language training and/or study-abroad is strongly recommended.

Economy and Society Courses (3-9 credit hours)
These courses in this perspective emphasize social science approaches to the study of contemporary Latin America such as anthropology, political science, and business language.

Select 1-3 of the following:
LTAM 2116 - Contemporary Latin America (3)
LTAM 2117 - Cultures of the Caribbean (3)
LTAM 3110 - Black Families in the Diaspora (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 3190 - Political Economy of the Caribbean (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 (3-9 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 1-3 courses from the following. At least one course must focus on the pre-colonial and/or colonial periods.
LTAM 2206 - Colonial Latin America (3)
LTAM 2207 - Modern Latin America (3)
LTAM 2252 - New World Archaeology (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 3274 - Resistance and Adaptation: Indian Peoples Under Spanish Rule (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)

Literature and the Arts Courses (3-9 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 1-3 of the following:
LTAM 3300 - Maya Art (3)
LTAM 3301 - Mexica (Aztec) Art (3)
LTAM 3302 - Andean 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 3360 - Studies in Hispanic Film (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 4322 - Studies in Advanced Business Spanish (3)
LTAM 4350 - Studies in Latin American Literature (3)

Minor Total = 18 Credit Hours

Notes: 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

- 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.

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
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree

Double-Counted Courses

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).

More Information

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

- Minimum high school GPA of 3.75 (on a 4.0 scale)
- Minimum score of 1220 on SAT

Continued Enrollment Requirements

Students must maintain a strong academic record at both the undergraduate and graduate levels with a cumulative GPA of 3.0 or above.

Double-Counted Courses

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).

More Information

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.

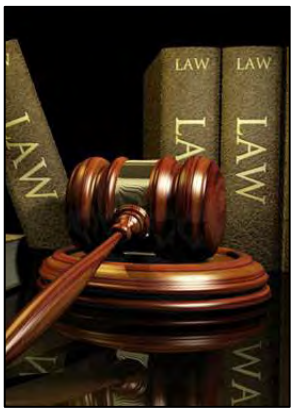
For details about the full requirements for this degree program, see the program listing in the *Graduate Catalog*.

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.



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) (O)
LEGL 4320 - Evidence (3) (O,W)

Legal Studies

LEGL 3000 - Topics in Legal Studies (3)
LEGL 3100 - Topics in Legal Skills (3)

Philosophy

LEGL 1105 - Critical Thinking (3) (W)
LEGL 1106 - Critical Thinking (3)
LEGL 2105 - Deductive Logic (3)
LEGL 3239 - Ethics Bowl Prep (3) (O,W)
LEGL 3240 - Ethics Bowl (3) (O,W)
LEGL 3510 - Advanced 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) (O,W)

Psychology

LEGL 2131 - Introduction to Forensic Psychology (3)

Sociology

LEGL 4265 - Social Psychology of Law (3) (W)

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) (W)
LEGL 1106 - Critical Thinking (3)
LEGL 2103 - Argumentation and Debate (3)
LEGL 2105 - Deductive Logic (3)
LEGL 3100 - Topics in Legal Skills (3)
LEGL 3239 - Ethics Bowl Prep (3) (O,W)
LEGL 3240 - Ethics Bowl (3) (O,W)
LEGL 3363 - Mediation and Conflict Resolution (3)
LEGL 3510 - Advanced Logic (3)
LEGL 4110 - North Carolina Student Legislature (3) (O,W)
LEGL 4320 - Evidence (3) (O,W)

Minor Total = 18 Credit Hours

Grade 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.

Southern Studies

Southern Studies is an interdisciplinary approach to the study of the diverse constellation of topics and ideas relating to the American South. The Minor in Southern Studies provides undergraduate students the opportunity to explore the region from historical, cultural, geographical, literary, political, and artistic perspectives, among others. Students gain knowledge and experience in critical thinking, writing, and reading, along with increased cultural awareness, through exposure to the many academic fields that anchor the study of the South.



Minor in Southern Studies

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.

Minor Requirements

The Minor in Southern Studies consists of 18 credit hours. A maximum of 6 credit hours of Southern Studies 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 Southern Studies content courses from each of these may apply to the Minor in Southern 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.

Core Course (3 credit hours)

SOST 2100 - Introduction to Southern Studies (3)

Elective Courses (15 credit hours)

Select five of the following. The following Southern Studies 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. 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 a Southern Studies topic.

AFRS 2105 - Black Images in the Media in the U.S. (3)
AFRS 2215 - Black Families in the United States (3) (W)
AFRS 3050 - Topics in Africana Studies (3) *(topics: Apartheid in the U.S. and South Africa)*
AFRS 3150 - The African American Church and Civil Rights (3)
AFRS 3692 - Colloquium (3) (W)
AMST 3000 - Seminar in American Studies (3) (O,W) *(topics: Growing Up Southern; Appalachian Culture; Race in America; The Catawba: River of Life; Motorsports in the South; The American South: Where the Blues Began; Southern Culture Past and Present)*
AMST 3020 - Seminar in American Studies (3) (W) *(topics: Southern Foodways)*
AMST 3050 - Topics in American Studies (3) *(topics: Apartheid in the U.S. and South Africa)*
ANTH 2090 - Topics in Anthropology (1 to 3) *(topics: Southeastern Archaeology)*
COMM 2120 - Black Images in the Media in the U.S. (3)
COMM 3050 - Topics in Communication Studies (1 to 3) *(Southern Studies themes)*
COMM 3131 - African American Oratory (3)
ENGL 2301 - Introduction to African American Literature (3)
ENGL 3050 - Topics in English (3) *(topics: Southern Culture in Literature and Film)*
ENGL 3157 - Twentieth Century Black American Literature: Prose (3)
ENGL 3231 - Early African American Literature (3)
ENGL 4050 - Topics in English (3) *(topics: African American Narratives of Freedom)*
ENGL 4145 - Literature of the American South (3)
FILM 3050 - Topics in Film (3) (W) *(topics: The South in Film)*
FILM 3051 - Topics in Film (3) *(topics: The South in Film)*
GEOG 2160 - The South (3) (O,W)
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 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)
LACS 3800 - Directed Individual Study (1 to 3) *(Southern Studies Themes)*
LACS 4800 - Directed Individual Study (1 to 3) *(Southern Studies Themes)*
SOST 2050 - Topics in Southern Studies (3)
SOST 3050 - Topics in Southern Studies (3)
SOST 3800 - Independent Study (3)
SOST 4050 - Topics in Southern Studies (3)

Minor Total = 18 Credit Hours

Grade Requirements

Students must earn a 2.0 GPA overall in courses applied to the minor. No courses counted toward the minor may be taken Pass/No Credit.

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.

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 1101 - Introduction to Women's Studies (3)
WGST 3220 - Feminist Thought (3) (W)
or WGST 3221 - 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)
AFRS 3158 - Gender in African American Literature (3)
or 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 4340 - Seminar on Sexual Assault (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)
HIST 3131 - History of Sexuality (3)
NURS 4191 - Women's Health Issues (3)
PHIL 3820 - Feminist Philosophy (3)
PSYC 2126 - Introduction to the Psychology of Women and Gender (3)
RELS 3000 - Religion and Gender (3)
RELS 3111 - Women in Judaism (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 Women's and Gender Studies Program Office.

Minor Total = 18 Credit Hours

Grade Requirements

Students must receive a grade of C or above in WGST 1101 and WGST 3220 or WGST 3221 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

- 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
- Minimum 2.0 GPA in WGST 1101 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.

Continued Enrollment 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

Double-Counted Courses

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:
WGST 4160 - Race, Sexuality, and the Body (3) / WGST 5160 - Race, Sexuality, and 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

More Information

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 and Culture Studies

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
  - Applied Language
  - Literature and Culture
  - Honors Program
- Minor in Arabic Studies
  - Honors Program
- Minor in Chinese
  - Honors Program
- Minor in Classical Studies
  - Honors Program
- Minor in Francophone Studies
  - Honors Program
- Minor in French
  - Honors Program
- Minor in German
  - Honors Program
- Minor in Italian
  - Honors Program
- Minor in Japanese
  - Honors Program
- Minor in Russian
  - Honors Program
- Minor in Spanish
  - Honors Program
- Undergraduate Certificate in Languages and Culture Studies: Business Languages
  - French
  - German
  - Japanese
  - Spanish
- Undergraduate Certificate in Languages and Culture Studies: German for Engineering
- Undergraduate Certificate in Languages and Culture Studies: Hispanic Literary Studies
- Undergraduate Certificate in Languages and Culture Studies: Translating
  - French-English
  - German-English
  - Japanese-English
  - Russian-English
  - Spanish-English
- Early Entry: M.A. in Spanish
- Early Entry: Graduate Certificate in Languages and Culture Studies: Business Language
- Early Entry: Graduate Certificate in Languages and Culture Studies: Translating
- Early Entry: Graduate Certificate in Languages and Culture Studies: Translation and Interpreting Studies, Spanish-English

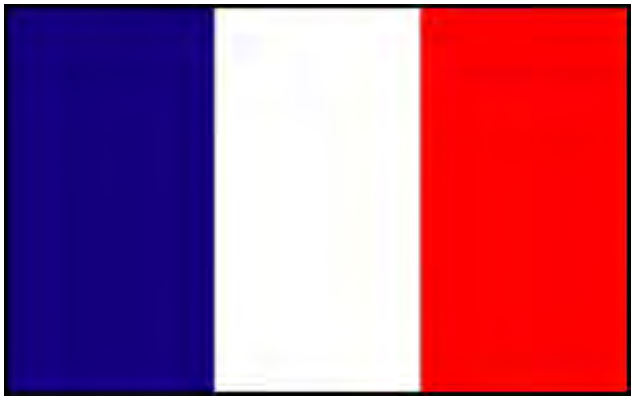
The Department of Languages and Culture Studies offers study in strategically selected languages, literatures, and film to develop students' language skills, cultural knowledge, literacy, and critical thinking in order to prepare its graduates for participation and leadership in an increasingly global, multicultural, and multilingual society. In addition to the Majors and Minors in French, German, Japanese and Spanish, the department offers Minors in Arabic, Chinese, Classical Studies, Francophone Studies, Italian, and Russian. It also offers undergraduate certificates in Translating, 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, Classical Studies, 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

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 and Culture Studies.



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
- *Other:* All incoming students except learners of French may take a UNC Charlotte Placement Exam in the language they wish to study if they have had previous experience with that language. Foreign language majors and minors may also take a placement exam to help them determine at what level they should begin studying their chosen language. Students should consult the department's webpages for more specific guidelines regarding placement.
- *Transferable Credit Hours:* 24

Degree Requirements

General Education Courses (37-41 credit hours)

For details on required courses, refer to the General Education Program.

Major Courses (27 credit hours)

Select 9 of the following, 2 of which must be at the 4000 level:

FREN 2201 - Intermediate French I (3)
FREN 2202 - Intermediate French II (3)
FREN 3201 - French Grammar and Conversation (3) (0)
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 4003 - Studies in French Literature (3)
FREN 4005 - Studies in the French Language (3)
FREN 4007 - Studies in French Culture and Civilization (3)
FREN 4201 - Survey of French Literature I (3)
FREN 4202 - Survey of French Literature II (3)

Notes:

FREN 2201, FREN 2202, FREN 3201, and FREN 3202 are mandatory for non-native speakers of French; however, FREN 2201 and FREN 2202 may be waived for those who have placed out of them. Native speakers are exempted from FREN 2201 and FREN 2202. All majors must take FREN 3209.

Approved Elective Course Substitutions

Non-native speakers may substitute one of the following elective courses for a major requirement. Native speakers may substitute up to three, and up to five if they do not take FREN 3201 and FREN 3202.

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 3050 - Topics in French (1 to 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)

Writing Intensive Course (3 hours)

Select one of the following or an equivalent course approved by the department:

FREN 2209 - French Civilization (3) (W)
TRAN 4404 - Practicum in Translating III - French (3) (W)

Senior Seminar (1 credit hour)

LACS 4690 - Senior Seminar (1)

Degree Total = 120 Credit Hours

Grade 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 and Culture Studies, 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.

Minor Requirements

Students must complete a minimum of 15 credit hours in courses approved for Francophone Studies credit.

Core Course (3 credit hours)

FRAN 2200 - French Civilization (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. 3000-level courses may be repeated with a change of topic.

FRAN 2050 - Topics in Francophone Studies (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)

Minor Total = 15 Credit Hours

Foreign Language Requirement

Students must demonstrate linguistic competency equivalent to three semesters of French language (FREN 2200, FREN 2201, 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 programs in Martinique and Limoges, France, contact the program director.

Minor in French

A Minor in French requires 21 credit hours (7 courses) above the FREN 1202 level.

Required Courses

Select seven of the following:*
FREN 2201 - Intermediate French I (3)
FREN 2202 - Intermediate French II (3)
FREN 3201 - French Grammar and Conversation (3) (O)
FREN 3202 - French Grammar and Composition (3)
FREN 3209 - France Today (3)
FREN 3203 - Introduction to French Literature (3)
FREN 3207 - French Phonetics (3)
FREN 3210 - Introduction to Business French (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 4201 - Survey of French Literature I (3)
FREN 4202 - Survey of French Literature II (3)
TRAN 4402 - Practicum in Translating I - French (3)
or TRAN 4403 - Practicum in Translating II - French (3)

** Notes:*

- *FREN 2201, FREN 2202, FREN 3201, and FREN 3202 are mandatory for non-native speakers of French; however, FREN 2201 and FREN 2202 may be waived for those who have placed out of them.*
- *Native speakers of French are exempt from FREN 2201 and FREN 2202.*
- *All students must take FREN 3209.*

Elective Courses

One of the following may be substituted for one required course:
FREN 2209 - French Civilization (3) (W)
FREN 3050 - Topics in French (1 to 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) (W)

Minor Total = 21 Credit Hours

Undergraduate Certificate in Languages and Culture Studies: Business French

The Certificate in Languages and Culture Studies: 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.

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

Grade 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 Languages and Culture Studies: Translating French-English
An Undergraduate Certificate in Languages and Culture Studies: 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, International 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.

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) (W)

Certificate Total = 12 Credit Hours

Grade 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
- *Minimum GPA:* 2.0
- *Other:* All incoming students except learners of Japanese may take a UNC Charlotte Placement Exam in the language they wish to study if they have had previous experience with that language. Foreign language majors and minors may also take a placement exam to help them determine at what level they should begin studying their chosen language.
- *Transferable Credit Hours:* 24

Degree Requirements
General Education Courses (37-41 credit hours)
For details on required courses, refer to the General Education Program.

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) (O)
GERM 3202 - Advanced German Language and Culture II (3)f

Core Content Course (3 credit hours)
GERM 3650 - The Holocaust in German Literature and Film (3) (W)

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 3651 - Seminar: German Youth and Pop Cultures (3)
GERM 3660 - Survey of German Film (3) (O,W)
GERM 3661 - Seminar: Current Events in Germany (3)
GERM 3670 - Seminar: German-American Culture for Business and Engineering I (English) (3) (W)
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 (6 credit hours)
Select two 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 4651 - Advanced Seminar: Germany After 1945 (3)
GERM 4661 - Advanced Seminar in Business German I (3)
GERM 4671 - Advanced Seminar in Business German II (3)
GERM 4681 - Advanced Seminar in German for Engineering (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) (W)

Elective 3000- or 4000-Level Course (3 credit hours)
Select one of the following courses not already taken:
GERM 3050 - Topics in German Culture: German Culture (English) (3)
GERM 3051 - Topics in German Culture: German Culture (German) (3)
GERM 3651 - Seminar: German Youth and Pop Cultures (3)
GERM 3660 - Survey of German Film (3) (O,W)
GERM 3661 - Seminar: Current Events in Germany (3)
GERM 3670 - Seminar: German-American Culture for Business and Engineering I (English) (3) (W)

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)
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)
GERM 4651 - Advanced Seminar: Germany After 1945 (3)
GERM 4661 - Advanced Seminar in Business German I (3)
GERM 4671 - Advanced Seminar in Business German II (3)
GERM 4681 - Advanced Seminar in German for Engineering (3)
GERM 4800 - Directed Individual Study (1 to 3)
HIST 2281 - Modern Germany (3)
HIST 3147 - The Third Reich (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) (W)

Senior Seminar (1 credit hour)
LACS 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 Languages and Culture Studies: German for Engineering (12 credit hours)
- Undergraduate Certificate in Languages and Culture Studies: Business German (12 credit hours)
- Undergraduate Certificate in Languages and Culture Studies: Translating German-English (12 credit hours)

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade 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 and Culture Studies, 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.

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) (O)
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 Languages and Culture Studies: Business German
The Undergraduate Certificate in Languages and Culture Studies: 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. GERM 3670, GERM 3680,and GERM 3690, which are taught in English, can double count towards the German Major and Minor.

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) (W)
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

Grade 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 Languages and Culture Studies: German for Engineering

The Undergraduate Certificate in Languages and Culture Studies: German for Engineering (UCGE) provides classroom, overseas (optional), and practical training in German for Engineering. The certificate requires 12 credit hours. 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. GERM 3670, GERM 3680, and GERM 3690 can double count towards the German Major and Minor.

Admission Requirements

Students may begin the certificate as freshmen. There are no prerequisites. Majors in any field are welcome.

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) (W)
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)

Grade Requirements

A grade of C or above is required for all courses in the certificate.

Certificate Total = 12 Credit Hours

Undergraduate Certificate in Languages and Culture Studies: Translating German-English

An Undergraduate Certificate in Languages and Culture Studies: 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, International 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. TRAN 4412, TRAN 4413, and TRAN 4414 may be double-counted toward the German major or minor.

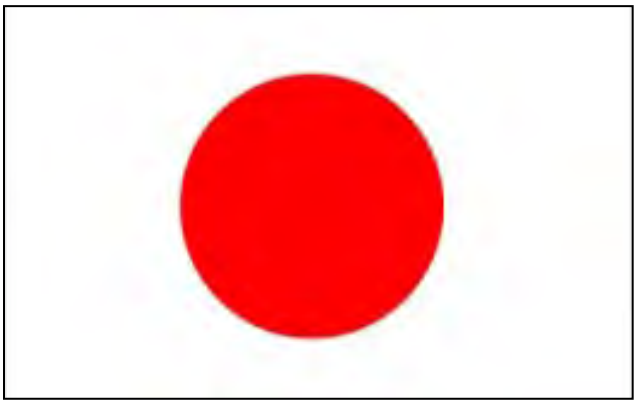
Certificate Requirements

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) (W)

Certificate Total = 12 Credit Hours

Grade Requirements

All courses must be completed with a grade of B or above.



Japanese

Bachelor of Arts in Japanese Studies

A Major in Japanese Studies leads to a B.A. degree.

Admission Requirements

Freshmen and Transfers

- *Minimum GPA:* 2.0
- *Other:* All incoming students except learners of Japanese may take a UNC Charlotte Placement Exam in the language they wish to study if they have had previous experience with that language. Foreign language majors and minors may also take a placement exam to help them determine at what level they should begin studying their chosen language. Learners of Japanese should contact a Japanese professor directly in order to schedule an interview regarding placement.
- *Transferable Credit Hours:* 24

Degree Requirements

General Education Courses (37-41 credit hours)

For details on required courses, refer to the General Education Program. All foreign language majors must take at least one of the following (W) courses offered within the department:

ARBC 3050 - Topics in Arabic Language and Culture (3) (W)
CHNS 3050 - Topics in Chinese (3) (W)
FRAN 2200 - French Civilization (3) (W)
FREN 2209 - French Civilization (3) (W)
GERM 3030 - Studies in German Culture (3) (W)
GERM 3150 - The Holocaust through German Literature and Film (3) (W)
GERM 3160 - Survey of German Film (3) (O,W)
ITLN 3050 - Topics in Italian (3) (W)
JAPN 3160 - Topics in Japanese Film (3) (W)
JAPN 3170 - Anime and Japanese Popular Culture (3) (W)
JAPN 4900 - Introductory Research Project (3) (W)
LACS 3050 - Topics in Language, Literature, and Culture (3) (W)
LACS 3160 - European Cinema (3) (O,W)
PORT 3050 - Topics in Portuguese (3) (W)

RUSS 3060 - Topics in Russian (3) (W)
RUSS 3209 - Russian Civilization and Culture (3) (W)
SPAN 2009 - Hispanic Literature in English Translation (3) (W)
SPAN 3009 - Masterpieces of Hispanic Literature in English (3) (W)
SPAN 3019 - Hispanic Women Writers in English Translation (3) (W)
TRAN 4404 - Practicum in Translating III - French (3) (W)
TRAN 4414 - Practicum in Translating III - German (3) (W)
TRAN 4424 - Practicum in Translating III - Japanese (3) (W)
TRAN 4434 - Practicum in Translating III - Russian (3) (W)
TRAN 4444 - Practicum in Translating III - Spanish (3) (W)

Major Courses (35 credit hours)

Required Language Courses (26 credit hours)

JAPN 2201 - Intermediate Japanese I (3)
JAPN 2201L - Intermediate Japanese I Lab (1)
JAPN 2202 - Intermediate Japanese II (3)
JAPN 2202L - Intermediate Japanese I Lab (1)
JAPN 3201 - Upper Intermediate Japanese I (3)
JAPN 3201L - Upper Intermediate Japanese I Lab (1)
JAPN 3202 - Upper Intermediate Japanese II (3)
JAPN 3202L - Upper Intermediate Japanese I Lab (1)
LACS 4690 - Senior Seminar (1)

JAPN 4100 - Japanese Language Proficiency Test (N3) Preparation (3)
or JAPN 4101 - Japanese Language Proficiency Test (N2) Preparation (3)

JAPN 4050 - Topics in Japanese (1 to 3)
or JAPN 4150 - Studies in Japanese Language (3)
or JAPN 4205 - Advanced Japanese Oral Communication (3) (O)
or JAPN 4206 - Advanced Spoken Business Japanese (3)
or JAPN 4207 - Business Japanese Writing (3)
or TRAN 4422 - Practicum in Translating I - Japanese (3)
or TRAN 4423 - Practicum in Translating II - Japanese (3)
or TRAN 4424 - Practicum in Translating III - Japanese (3) (W)

JAPN 4900 - Introductory Research Project (3) (W)
or LACS 4700 - Honors Project (3) (W)
or TRAN 4424 - Practicum in Translating III - Japanese (3) (W)

Elective Content Courses (9 credit hours)

Select 3 courses from the following. At least 6 credit hours must be Cultural Content Courses.

Cultural Content Courses
JAPN 2208 - Japanese Culture and Society (3)
JAPN 2209 - Introduction to Japanese Civilization and Culture (3) (O)
JAPN 3040 - Topics in Japanese Culture (1 to 3)
JAPN 3130 - Business and Culture in Japan (3)
JAPN 3140 - Anime and Japanese Popular Culture (3)
JAPN 3160 - Topics in Japanese Film (3) (W)
JAPN 3170 - Anime and Japanese Popular Culture (3) (W)
JAPN 3225 - Short-Term Abroad (3)

Language Content Courses
JAPN 2205 - Japanese Oral Communication (3)
JAPN 3050 - Topics in the Japanese Language (1 to 3)
JAPN 3101 - Kanji through Reading (3)
JAPN 3105 - Japanese Immersion - Communication Skills Development (3)
JAPN 3400 - Teaching Practicum (3)
JAPN 3800 - Directed Individual Study (1 to 3)
JAPN 4410 - Professional Internship in Japanese (1 to 6)
JAPN 4900L - Research Activities in Japan (1)
LACS 4050 - Topics in Foreign Language (3) *(language internship)*
TRAN 3601 - Introduction to Translation and Interpreting Studies (3)

Exam

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

As needed to complete the credit hours required for graduation.

Undergraduate Certificate Courses

Credit from courses taken for the Undergraduate Certificate in Languages and Culture Studies: 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

Grade 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, with the exception of JAPN 4100 and JAPN 4101, which require a grade of B 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*.

Minor in Japanese

The Minor in Japanese requires a total of 22 credit hours of coursework. 16 credit hours come from four core courses with their corresponding labs. The remaining 6 credit hours come from two elective content courses.

Minor Requirements

Core Courses (16 credit hours)

JAPN 2201 - Intermediate Japanese I (3)
JAPN 2201L - Intermediate Japanese I Lab (1)
JAPN 2202 - Intermediate Japanese II (3)
JAPN 2202L - Intermediate Japanese I Lab (1)
JAPN 3201 - Upper Intermediate Japanese I (3)
JAPN 3201L - Upper Intermediate Japanese I Lab (1)
JAPN 3202 - Upper Intermediate Japanese II (3)
JAPN 3202L - Upper Intermediate Japanese I Lab (1)

Elective Content Courses (6 credit hours)

Select 2 courses from the following. At least 3 credit hours must be Cultural Content Courses.

Cultural Content Courses
JAPN 2208 - Japanese Culture and Society (3)
JAPN 2209 - Introduction to Japanese Civilization and Culture (3) (O)
JAPN 3040 - Topics in Japanese Culture (1 to 3)
JAPN 3130 - Business and Culture in Japan (3)
JAPN 3140 - Anime and Japanese Popular Culture (3)
JAPN 3160 - Topics in Japanese Film (3) (W)
JAPN 3170 - Anime and Japanese Popular Culture (3) (W)
JAPN 3225 - Short-Term Abroad (3)

Language Content Courses
JAPN 2205 - Japanese Oral Communication (3)
JAPN 3050 - Topics in the Japanese Language (1 to 3)
JAPN 3101 - Kanji through Reading (3)
JAPN 3105 - Japanese Immersion - Communication Skills Development (3)
JAPN 3400 - Teaching Practicum (3)
JAPN 3800 - Directed Individual Study (1 to 3)
JAPN 4900L - Research Activities in Japan (1)
TRAN 3601 - Introduction to Translation and Interpreting Studies (3)

Minor Total = 22 Credit Hours

Undergraduate Certificate in Languages and Culture Studies: Business Japanese

The Certificate in Languages and Culture Studies: 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 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 Japanese. Majors in any field are welcome.

Certificate Requirements

Required Courses (15 credit hours)
JAPN 3130 - Business and Culture in Japan (3)
JAPN 3202 - Upper Intermediate Japanese II (3)
JAPN 4100 - Japanese Language Proficiency Test (N3) Preparation (3)
or JAPN 4101 - Japanese Language Proficiency Test (N2) Preparation (3)
JAPN 4206 - Advanced Spoken Business Japanese (3)
JAPN 4207 - Business Japanese Writing (3)

Certificate Total = 15 Credit Hours

Grade 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 Languages and Culture Studies: Translating Japanese-English

An Undergraduate Certificate in Languages and Culture Studies: 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, International 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.

Certificate Requirements

TRAN 3601 - Introduction to Translation and Interpreting Studies (3)
TRAN 4422 - Practicum in Translating I - Japanese (3)
TRAN 4423 - Practicum in Translating II - Japanese (3)
TRAN 4424 - Practicum in Translating III - Japanese (3) (W)

Certificate Total = 12 Credit Hours

Grade Requirements

All courses must be completed with a grade of B or above.



Russian

Minor in Russian

A Minor in Russian consists of six courses (20 credit hours) above the RUSS 1202 level.

Minor Requirements

Required Courses (20 credit hours)
RUSS 2201 - Intermediate Russian I (3)
RUSS 2201L - Intermediate Russian I Lab (1)
RUSS 2202 - Intermediate Russian II (3)
RUSS 2202L - Intermediate Russian II Lab (1)
RUSS 3201 - Advanced Russian Grammar, Composition, and Conversation I (3)
RUSS 3202 - Advanced Russian Grammar, Composition, and Conversation II (3)

RUSS 3204 - Masterpieces of Russian Literature (3) (W)*
RUSS 3209 - Russian Civilization and Culture (3) (W)*

**RUSS 3060 and/or RUSS 3061, when taken for 3 credit hours, may count toward the minor in place of RUSS 3204 and/or RUSS 3209.*

Minor Total = 20 Credit Hours

Undergraduate Certificate in Languages and Culture Studies: Translating Russian-English

An Undergraduate Certificate in Languages and Culture Studies: 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 Russian, International 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.

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) (W)

Certificate Total = 12 Credit Hours

Grade 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 at the 2000-level or above, 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

- *Minimum GPA:* 2.0
- *Other:* All incoming students except learners of Japanese may take a UNC Charlotte Placement Exam in the language they wish to study if they have had previous experience with that language. Foreign language majors and minors may also take a placement exam to help them determine at what level they should begin studying their chosen language.
- *Transferable Credit Hours:* 24

Degree Requirements

General Education Courses (37-41 credit hours)

For details on required courses, refer to the General Education Program. All foreign language majors must take at least one of the following (W) courses offered within the department:

ARBC 3050 - Topics in Arabic Language and Culture (3) (W)
CHNS 3050 - Topics in Chinese (3) (W)
FRAN 2200 - French Civilization (3) (W)
FREN 2209 - French Civilization (3) (W)
GERM 3030 - Studies in German Culture (3) (W)
GERM 3150 - The Holocaust through German Literature and Film (3) (W)
GERM 3160 - Survey of German Film (3) (O,W)
ITLN 3050 - Topics in Italian (3) (W)
JAPN 3160 - Topics in Japanese Film (3) (W)
JAPN 3170 - Anime and Japanese Popular Culture (3) (W)
JAPN 4900 - Introductory Research Project (3) (W)
LACS 3050 - Topics in Language, Literature, and Culture (3) (W)
LACS 3160 - European Cinema (3) (O,W)
PORT 3050 - Topics in Portuguese (3) (W)
RUSS 3060 - Topics in Russian (3) (W)
RUSS 3209 - Russian Civilization and Culture (3) (W)
SPAN 2009 - Hispanic Literature in English Translation (3) (W)
SPAN 3009 - Masterpieces of Hispanic Literature in English (3) (W)
SPAN 3019 - Hispanic Women Writers in English Translation (3) (W)
TRAN 4404 - Practicum in Translating III - French (3) (W)
TRAN 4414 - Practicum in Translating III - German (3) (W)
TRAN 4424 - Practicum in Translating III - Japanese (3) (W)
TRAN 4434 - Practicum in Translating III - Russian (3) (W)
TRAN 4444 - Practicum in Translating III - Spanish (3) (W)

Major 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) (O)
or SPAN 3203 - Spanish for Heritage Speakers (3) (O)

**This course may be waived for highly proficient speakers.*

Concentration Courses

3000-Level Elective Courses (6 credit hours)

Select two of the following courses offered in Spanish:

SPAN 3050 - Topics in Spanish (1 to 3)
SPAN 3208 - Introduction to Literary Analysis (3)
SPAN 3209 - Spanish Civilization and Culture (3)
SPAN 3210 - Spanish American Civilization and Culture (3)
SPAN 3220 - Spanish for Business and International Trade (3)

SPAN 3221 - Spanish for Criminal Justice (3)
SPAN 3222 - Spanish for Medical and Healthcare (3)
SPAN 3409 - Service Learning in the Hispanic Community (3)
SPAN 3800 - Directed Individual Study (1 to 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 4122 - Studies in Advanced Business Spanish (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)
SPAN 4410 - Professional Internship in Spanish (1 to 6)
SPAN 4700 - Honors Project (3) (W)
SPAN 4800 - Directed Individual Study (1 to 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) (W)

3000- or 4000-Level Elective Course (3 credit hours)
Select one of the following:
SPAN 3029 - Cultural Dimension of Doing Business with Spanish-Speaking Countries (3)
SPAN 3030 - Business and Culture in the Hispanic Caribbean Region (3) (W)
SPAN 3160 - Studies in Hispanic Film (3) (W)
TRAN 3601 - Introduction to Translation and Interpreting Studies (3)
SPAN 3XXX-4XXX - Elective Course (3)
TRAN 3XXX-4XXX - Elective Course (3)
3000- or 4000-level course with Hispanic content, subject to approval from the department (3)

The elective may also double count as a (W) course in the major if it has Hispanic content, such as the following:
SPAN 3009 - Masterpieces of Hispanic Literature in English (3) (W)
SPAN 3019 - Hispanic Women Writers in English Translation (3) (W)

Senior Seminar (1 credit hour)
LACS 4690 - Senior Seminar (1)

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade 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 and Culture Studies, 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.

Bachelor of Arts in Spanish *with Concentration in Applied Language (Business Spanish and Translating)*
The B.A. in Spanish with Concentration in Applied Language is designed for Spanish for the professions and specific purposes, such as Business Spanish and Translating. The degree program consists of 30 credit hours of language and content courses at the 3000 level or above, 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
- *Minimum GPA:* 2.0
- *Other:* All incoming students except learners of Japanese may take a UNC Charlotte Placement Exam in the language they wish to study if they have had previous experience with that language. Foreign language majors and minors may also take a placement exam to help them determine at what level they should begin studying their chosen language.
- *Transferable Credit Hours:* 24

Degree Requirements
General Education Courses (37-41 credit hours)
For details on required courses, refer to the General Education Program. All foreign language majors must take at least one of the following (W) courses offered within the department:

ARBC 3050 - Topics in Arabic Language and Culture (3) (W)

CHNS 3050 - Topics in Chinese (3) (W)
FRAN 2200 - French Civilization (3) (W)
FREN 2209 - French Civilization (3) (W)
GERM 3030 - Studies in German Culture (3) (W)
GERM 3150 - The Holocaust through German Literature and Film (3) (W)
GERM 3160 - Survey of German Film (3) (O,W)
ITLN 3050 - Topics in Italian (3) (W)
JAPN 3160 - Topics in Japanese Film (3) (W)
JAPN 3170 - Anime and Japanese Popular Culture (3) (W)
JAPN 4900 - Introductory Research Project (3) (W)
LACS 3050 - Topics in Language, Literature, and Culture (3) (W)
LACS 3160 - European Cinema (3) (O,W)
PORT 3050 - Topics in Portuguese (3) (W)
RUSS 3060 - Topics in Russian (3) (W)
RUSS 3209 - Russian Civilization and Culture (3) (W)
SPAN 2009 - Hispanic Literature in English Translation (3) (W)
SPAN 3009 - Masterpieces of Hispanic Literature in English (3) (W)
SPAN 3019 - Hispanic Women Writers in English Translation (3) (W)
TRAN 4404 - Practicum in Translating III - French (3) (W)
TRAN 4414 - Practicum in Translating III - German (3) (W)
TRAN 4424 - Practicum in Translating III - Japanese (3) (W)
TRAN 4434 - Practicum in Translating III - Russian (3) (W)
TRAN 4444 - Practicum in Translating III - Spanish (3) (W)

Major Core Courses (6 credit hours)
SPAN 3201 - Advanced Grammar and Composition (3)*
SPAN 3202 - Advanced Conversation and Composition (3) (O)
or SPAN 3203 - Spanish for Heritage Speakers (3) (O)

Concentration Courses (24 credit hours)
Concentration Core Courses (6 credit hours)
Select one of the following:
SPAN 3208 - Introduction to Literary Analysis (3)
SPAN 3209 - Spanish Civilization and Culture (3)
SPAN 3210 - Spanish American Civilization and Culture (3)
TRAN 3601 - Introduction to Translation and Interpreting Studies (3)

Plus select one of the following:
SPAN 3220 - Spanish for Business and International Trade (3)
SPAN 3221 - Spanish for Criminal Justice (3)
SPAN 3222 - Spanish for Medical and Healthcare (3)

Concentration Elective Courses (18 credit hours)
3000/4000-level Elective Course (3 credit hours)
Select one of the following:
SPAN 3050 - Topics in Spanish (1 to 3)
SPAN 3208 - Introduction to Literary Analysis (3)
SPAN 3209 - Spanish Civilization and Culture (3)
SPAN 3210 - Spanish American Civilization and Culture (3)
SPAN 3220 - Spanish for Business and International Trade (3)
SPAN 3221 - Spanish for Criminal Justice (3)
SPAN 3222 - Spanish for Medical and Healthcare (3)
SPAN 3800 - Directed Individual Study (1 to 3)
SPAN 4050 - Selected Topics in Spanish (1 to 3)
SPAN 4120 - Advanced Business Spanish I (3)
SPAN 4121 - Advanced Business Spanish II (3)
SPAN 4122 - Studies in Advanced Business Spanish (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 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)
SPAN 4410 - Professional Internship in Spanish (1 to 6)
SPAN 4800 - Directed Individual Study (1 to 3)
SPAN 4xxx - Spanish Elective (3)
LACS 4700 - Honors Project (3) (W)
TRAN 4442 - Practicum in Translating I - Spanish (3)
TRAN 4443 - Practicum in Translating II - Spanish (3)
TRAN 4444 - Practicum in Translating III - Spanish (3) (W)

Note: SPAN 3409 will not count as a concentration elective course.

4000-level Elective Course (3 credit hours)
Select 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 4202 - Twentieth Century Spanish Literature (3)
SPAN 4205 - Novel of the Golden Age (3)
SPAN 4206 - Theater of the Golden Age (3)
SPAN 4122 - Studies in Advanced Business Spanish (3)
SPAN 4201 - Nineteenth Century Spanish 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)
SPAN 4410 - Professional Internship in Spanish (1 to 6)
SPAN 4800 - Directed Individual Study (1 to 3)
LACS 4700 - Honors Project (3) (W)
TRAN 4442 - Practicum in Translating I - Spanish (3)
TRAN 4443 - Practicum in Translating II - Spanish (3)
TRAN 4444 - Practicum in Translating III - Spanish (3) (W)

Applied Language 4000-level Elective Courses (9 credit hours)
Select three 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 4122 - Studies in Advanced Business Spanish (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) (W)

Writing Intensive Course (3 credit hours)
Select one of the following:
ARBC 3050 - Topics in Arabic Language and Culture (3) (W)
CHNS 3050 - Topics in Chinese (3) (W)
FRAN 2200 - French Civilization (3) (W)
FREN 2209 - French Civilization (3) (W)
GERM 3050 - Topics in German Culture: German Culture (English) (3)
GERM 3650 - The Holocaust in German Literature and Film (3) (W)
GERM 3660 - Survey of German Film (3) (O,W)
ITLN 3050 - Topics in Italian (3) (W)
JAPN 3160 - Topics in Japanese Film (3) (W)
JAPN 3170 - Anime and Japanese Popular Culture (3) (W)
JAPN 4900 - Introductory Research Project (3) (W)
LACS 3050 - Topics in Language, Literature, and Culture (3) (W)
LACS 3160 - European Cinema (3) (O,W)
PORT 3050 - Topics in Portuguese (3) (W)
RUSS 3060 - Topics in Russian (3) (W)
RUSS 3209 - Russian Civilization and Culture (3) (W)
SPAN 2009 - Hispanic Literature in English Translation (3) (W)
SPAN 3009 - Masterpieces of Hispanic Literature in English (3) (W)
SPAN 3019 - Hispanic Women Writers in English Translation (3) (W)
TRAN 4404 - Practicum in Translating III - French (3) (W)
TRAN 4414 - Practicum in Translating III - German (3) (W)
TRAN 4424 - Practicum in Translating III - Japanese (3) (W)
TRAN 4434 - Practicum in Translating III - Russian (3) (W)
TRAN 4444 - Practicum in Translating III - Spanish (3) (W)

Note: The following courses may also double count as a 4000-level Concentration Elective course:
TRAN 4444 - Practicum in Translating III - Spanish (3) (W)
LACS 4700 - Honors Project (3) (W)

Senior Seminar (1 credit hour)
LACS 4690 - Senior Seminar (1)

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade 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 and Culture Studies, 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.

Bachelor of Arts in Spanish
with Concentration in Literature and Culture
The B.A. in Spanish with Concentration in Literature and Culture consists of 30 credit hours of language and content courses at the 3000 level or above, 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
- *Minimum GPA:* 2.0
- *Other:* All incoming students except learners of Japanese may take a UNC Charlotte Placement Exam in the language they wish to study if they have had previous experience with that language. Foreign language majors and minors may also take a placement exam to help them determine at what level they should begin studying their chosen language.
- *Transferable Credit Hours:* 24

Degree Requirements
General Education Courses (37-43 credit hours)
For details on required courses, refer to the General Education Program. All foreign language majors must take at least one of the following (W) courses offered within the department:

ARBC 3050 - Topics in Arabic Language and Culture (3) (W)
CHNS 3050 - Topics in Chinese (3) (W)
FRAN 2200 - French Civilization (3) (W)
FREN 2209 - French Civilization (3) (W)
GERM 3030 - Studies in German Culture (3) (W)
GERM 3150 - The Holocaust through German Literature and Film (3) (W)
GERM 3160 - Survey of German Film (3) (O,W)
ITLN 3050 - Topics in Italian (3) (W)
JAPN 3160 - Topics in Japanese Film (3) (W)
JAPN 3170 - Anime and Japanese Popular Culture (3) (W)
JAPN 4900 - Introductory Research Project (3) (W)
LACS 3050 - Topics in Language, Literature, and Culture (3) (W)
LACS 3160 - European Cinema (3) (O,W)
PORT 3050 - Topics in Portuguese (3) (W)
RUSS 3060 - Topics in Russian (3) (W)
RUSS 3209 - Russian Civilization and Culture (3) (W)
SPAN 2009 - Hispanic Literature in English Translation (3) (W)
SPAN 3009 - Masterpieces of Hispanic Literature in English (3) (W)
SPAN 3019 - Hispanic Women Writers in English Translation (3) (W)
TRAN 4404 - Practicum in Translating III - French (3) (W)
TRAN 4414 - Practicum in Translating III - German (3) (W)
TRAN 4424 - Practicum in Translating III - Japanese (3) (W)
TRAN 4434 - Practicum in Translating III - Russian (3) (W)

TRAN 4444 - Practicum in Translating III - Spanish (3) (W)

Major Core Courses (6 credit hours)
SPAN 3201 - Advanced Grammar and Composition (3)*
SPAN 3202 - Advanced Conversation and Composition (3) (O)
or SPAN 3203 - Spanish for Heritage Speakers (3) (O)

Concentration Courses (24 credit hours)
Concentration Core Courses (6 credit hours)
SPAN 3208 - Introduction to Literary Analysis (3)
SPAN 3209 - Spanish Civilization and Culture (3)
or SPAN 3210 - Spanish American Civilization and Culture (3)

Concentration Elective Courses (18 credit hours)
3000-Level Elective Courses (6 credit hours)
Select one of the following courses offered in Spanish:
SPAN 3050 - Topics in Spanish (1 to 3)
SPAN 3208 - Introduction to Literary Analysis (3)
SPAN 3209 - Spanish Civilization and Culture (3)
SPAN 3210 - Spanish American Civilization and Culture (3)
SPAN 3220 - Spanish for Business and International Trade (3)
SPAN 3409 - Service Learning in the Hispanic Community (3)
SPAN 3800 - Directed Individual Study (1 to 3)

Select one of the following (W) courses offered in English:
SPAN 3009 - Masterpieces of Hispanic Literature in English (3) (W)
SPAN 3019 - Hispanic Women Writers in English Translation (3) (W)

Note: The writing intensive (W) elective course may be taken in English if the topic involves Hispanic literature (Spanish, Latin American, or Latino) and should be approved by the student's advisor.

Survey Elective Course (3 credit hours)
Select one of the following:
SPAN 4208 - Survey of Spanish Peninsular Literature (3)
SPAN 4209 - Survey of Spanish American Literature (3)

Literature/Culture 4000-Level 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 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)

4000-Level Elective Course (3 credit hours)
Select one of the following:
SPAN 4050 - Selected Topics in Spanish (1 to 3)
SPAN 4120 - Advanced Business Spanish I (3)
SPAN 4122 - Studies in Advanced Business Spanish (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 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) (W)

Senior Seminar (1 credit hour)
LACS 4690 - Senior Seminar (1)

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade 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 and Culture Studies, 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 five courses above the 2202 level.

Minor Requirements

Required Courses (9 credit hours)

SPAN 3201 - Advanced Spanish Grammar and Composition I (3)*
SPAN 3202 - Advanced Spanish Conversation and Composition II (3)*
SPAN 3208 - Introduction to Literary Analysis (3)

Elective Courses (6 credit hours)

Select two of the following:
SPAN 3xxx-4xxx - Spanish Elective Course (3)
SPAN 3xxx-4xxx - Spanish Elective Course (3)

**Native and heritage speakers of Spanish may take SPAN 3203 (Spanish for Heritage Speakers) in lieu of SPAN 3201 and SPAN 3202, but they must also take one additional 3000- or 4000-level Spanish course.*

Minor Total = 15 Credit Hours

Grade Requirements

A grade of C or above is required for all courses in the minor.

Undergraduate Certificate in Languages and Culture Studies: 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 Languages and Culture Studies: Business Spanish (CBLS) requires 12 credit hours. Majors in any field are welcome.

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

Grade 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 Languages and Culture Studies: Hispanic Literary Studies

The Undergraduate Certificate in Languages and Culture Studies: 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 Languages and Culture Studies: Business Spanish and Translating Spanish-English.

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 Languages and Culture Studies: Translating Spanish-English

An Undergraduate Certificate in Languages and Culture Studies: 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, International 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.

Certificate Requirements

TRAN 3601 - Introduction to Translation and Interpreting Studies (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) (W)

Certificate Total = 12 Credit Hours

Grade 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

- 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 and Culture Studies
- 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.

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 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

Double-Counted Courses

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).

More Information

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 Languages and Culture Studies: 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

- 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
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree

Double-Counted Courses

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.

More Information

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 20 credit hours (6 courses) above the 1202 level.



Admission Requirements

Students must be in good academic standing with a minimum GPA of 2.0.

Minor Requirements

Intermediate Level Courses (8 credit hours)
ARBC 2201 - Intermediate Arabic I (3)
ARBC 2201L - Intermediate Arabic I Lab (1)
ARBC 2202 - Intermediate Arabic II (3)
ARBC 2202L - Intermediate Arabic II Lab (1)

Advanced Level Courses (6 credit hours)
ARBC 3201 - Advanced Arabic I (3)
ARBC 3202 - Advanced Arabic II (3)

Elective Courses (6 credit hours)
Students choose two elective classes at the 3000-level in Arabic language, literature, film, and/or culture, taken either at UNC Charlotte or abroad. Select from the following:

ARBC 3050 - Topics in Arabic Language and Culture (3) (W)
ARBC 3051 - Topics in Arabic Language and Culture (1 to 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)*

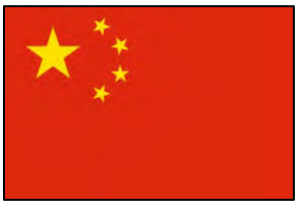
Minor Total = 20 Credit Hours

Grade 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 20 credit hours (6 courses) above the CHNS 1202 level (i.e., above beginning language instruction).



Minor Requirements

Intermediate Level Courses (8 credit hours)
CHNS 2201 - Intermediate Chinese I (3)
CHNS 2201L - Intermediate Chinese I Lab (1)
CHNS 2202 - Intermediate Chinese II (3)
CHNS 2202L - Intermediate Chinese II Lab (1)

Advanced Level Courses (6 credit hours)
CHNS 3201 - Chinese Grammar and Conversation I (3)
CHNS 3202 - Chinese Grammar and Conversation II (3)

Elective Courses (6 credit hours)
Students choose two elective classes at the 3000-level in Chinese language, literature, film, and/or culture, taken either at UNC Charlotte or abroad. The elective classes must either be taught in the language or be accompanied by a one-hour additional language component in order to count toward the minor.

Minor Total = 20 Credit Hours

Minor in Classical Studies

The Minor in Classical Studies focuses a student's interest in ancient Mediterranean history and provides a foundation for advanced work in other academic disciplines as well as professional programs in law, medicine, and finance. The minor gives students an opportunity to develop a keener perception and better understanding of the cultural forces at work in the contemporary world. By presenting a broad selection of courses in the various disciplines of literature, philosophy, and history, the minor provides students with a sound overview of Western antiquity.

Minor Requirements

The minor requires a minimum of 18 credit hours of coursework distributed over at least three of the following five areas of study:

Languages
GREK 1202 - Elementary Ancient Greek II (4)
LATN 1202 - Elementary Latin II (4)

Ancient Material Culture
ANTH 2152 - New World Archaeology (3)
ANTH 3152 - Early Civilizations (3)
ARTH 3320 - Ancient Egyptian and Near Eastern Art (3)
ARTH 3322 - Ancient Greek Art (3)
ARTH 3323 - Ancient Roman Art I (3)

Ancient History
HIST 2221 - History of Greece (3)
HIST 2222 - History of Rome (3)

Greek and Roman Literature
ENGL 4111 - Ancient World Literature (3)

Greek and Roman Thought
PHIL 3010 - Ancient Philosophy (3)
iPHIL 3110 - Medieval Philosophy (3)
POLS 3171 - History of Classical Political Philosophy (3)

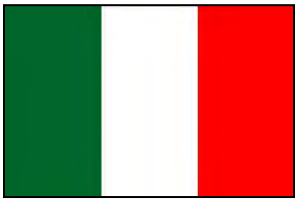
Minor Total = 18 Credit Hours

Grade Requirements

GPA of 2.0 is required.

Minor in Italian

A Minor in Italian consists of 18 credit hours (six 3-credit hour courses) above the ITLN 1202 level.



Minor Requirements

Required Courses (12 credit hours)

ITLN 2201 - Intermediate Italian I (3)
ITLN 2202 - Intermediate Italian II (3)
ITLN 3201 - Italian Grammar and Conversation (3)
ITLN 3202 - Italian Grammar and Composition (3)

Elective Courses (6 credit hours)

Select two of the following:
ITLN 3050 - Topics in Italian (3) (W)
ITLN 3225 - Short-Term Abroad (3)
ITLN 3051 - Topics in Italian (1 to 3)
ITLN 3226 - Rome Virtually! (3)
ITLN 3650 - History of Italian Film (3) (W)
ITLN 3651 - Italian Mafia through Film (3)
ITLN 3660 - Italian Culture and Business (3) (W)
ITLN 3661 - Migrations Across the Mediterranean Sea through Film (3)
TRAN 4452 - Practicum in Translation I - Italian (3)

Minor Total = 18 Credit Hours

Early Entry: Graduate Certificate in Languages and Culture Studies: 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

- 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
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree

Double-Counted Courses

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).

More Information

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 Languages and Culture Studies: 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

- 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.

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
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree

Double-Counted Courses

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 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.

More Information

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 and Culture Studies

The Honors Program in the Department of Languages and Culture studies 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 students to do and write up research, they have the opportunity to do experiential learning either on a study abroad or an internship, and later write up their findings. Students 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 and Culture Studies is an excellent preparation for graduate school, and it is a great addition to student resumes.

Admission Requirements

To be admitted to the Languages and Culture Studies 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

Certification 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 LACS 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 LACS 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 and Culture Studies major or minor

LEADS Program

leads.charlotte.edu

Undergraduate Programs

- **Undergraduate Certificate in Leadership, Innovation, Technology, and Diversity**

LEADS (Leadership/Entrepreneurship/Applied/Development/Skills) is an innovative, transdisciplinary program designed to help students in the College of Liberal Arts & Sciences 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 programming and experiential learning that complements their major and enhances their personal and professional development. There are several points of entry for LEADS, and students have the flexibility to choose from the LEADS options that best meet their needs and interests, and to proceed at their own pace. Participation in LEADS positions you to be well-rounded and competitive prepared for wherever your next steps take you.

LEADS provides programming that:

- supplements and complements students' major curriculum
- fosters learning across disciplines
- enhances communication skills
- provides space for practicing critical skills
- allows students to gain valuable experience
- leads to personal and professional development
- prepares students for their next step after UNC Charlotte

LEADS is open to new freshmen, continuing students, and transfer students.

Undergraduate Certificate in Leadership, Innovation, Technology, and Diversity

The Undergraduate Certificate in Leadership, Innovation, Technology, and Diversity is offered by the LEADS program within the College of Liberal Arts & Sciences. It provides students with an additional layer of experiential learning and individualized support to supplement their major curriculum. Through transdisciplinary courses and experiences, students practice innovation thinking, critical thinking, and professional communication as they identify and develop their personal leadership style. Students who complete the LEADS certificate in Leadership, Innovation, Technology, and Diversity develop and execute a professional plan of action and are well prepared to translate their experiences and abilities as they prepare to enter their career or graduate/professional studies. The certificate may be pursued concurrently with any undergraduate degree programs at UNC Charlotte.

Certificate Requirements

LEADS Foundation Course (1 credit hours)

CLAS 2600 - LEADS Colloquium (1)

LEADS Elective Courses (3 credit hours)

Select two of the following:

CLAS 3000 - Topics in Liberal Arts & Sciences (3)
CLAS 3400 - Non-Residential Studies (1 to 15)
CLAS 3480 - Citizenship and Service Practicum (3) (O,W)
CLAS 3500 - Liberal Arts & Sciences Cooperative Education Experience (0)
LBST 2301 - Critical Thinking and Communication (3)

Notes:

- *LBST 2301 credit should be through LEADS specific sections. Students who have received credit for a non-LEADS section of LBST 2301 may substitute an additional LEADS elective course.*
- *CLAS 3000 may be repeated for credit with change in topics.*
- *LEADS elective credit may also be earned through departmental credits for LEADS approved courses.*

LEADS Capstone Course (3 credit hours)

Students should complete their capstone experience during their Senior year, following completion of all other requirements.

CLAS 4800 - LEADS Capstone Project (3) (W)

Certificate Total = 10 Credit Hours

Grade Requirements

Students must earn grades of C or above in all LEADS courses. Students must earn a grade of B or above in CLAS 4800.

Department of Mathematics and Statistics

math.charlotte.edu

Undergraduate Programs

- B.A. in Mathematics
  - Actuarial Science
  - Statistics
  - Teacher Licensure
  - Honors Program
- B.S. in Mathematics
  - Actuarial Science
  - Statistics
  - Teacher Licensure
  - Honors Program
- B.A. in Mathematics for Business
- B.S. in Mathematics for Business
- Minor in Actuarial Mathematics
- Minor in Mathematics
- Minor in Statistics
- Undergraduate Certificate in Actuarial Studies
- Early Entry: M.S. in Mathematics

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. However, according to a recent national survey, the majority are employed in careers with private for-profit employers. Upon graduation, mathematics majors have many options due to their strengths in critical thinking and quantitative and data reasoning. The leading occupations 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. For the past five years, 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.

Degree Programs

The Department of Mathematics and Statistics offers a B.A. and B.S. in Mathematics (with optional concentrations in Actuarial Mathematics and Statistics); a B.A. and B.S. in Mathematics for Business; three minors: Mathematics, Actuarial Mathematics, and Statistics; a certificate in Actuarial Studies; teacher licensure; and an Honors program.

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

A Major in Mathematics for the B.A. degree consists of a minimum of 34 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.

Admission Requirements

Freshman and Transfers

- *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
- *Declaration of Major:* Change of Major forms accepted year-round; orientation/advising session required after declaration
- *Transferable Credit Hours:* 24

Degree Requirements

General Education Courses (37-41 credit hours)

For details on required courses, refer to the General Education Program.

Foreign Language Requirement (0-8 credit hours)

For details, refer to the College of Liberal Arts & Sciences Foreign Language Requirements at the beginning of this section.

Major Courses (26-28 credit hours)

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 2242 - Calculus IV (3)
MATH 3163 - Introduction to Modern Algebra (3) (W)
MATH 3688 - Mathematics Awareness Seminar (0)
MATH 3689 - Mathematics Project Seminar (1) (0)
or MATH 3791 - Senior Honors Tutorial (3)
ITCS 1212 - Introduction to Computer Science (4)
ITCS 1212L - Programming Lab I (0)

Restricted Mathematics Elective Courses (12 credit hours)
Select 12 credit hours of approved courses from MATH, STAT, or OPRS at the 3000-level or above.

Restricted Related Elective Courses (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.

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade 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 (P, FM, IFM, LTAM). Required courses in economics, finance, and applied statistical methods also meet the Society of Actuaries requirements for Validation by Educational Experience (VEE).

Admission Requirements
Freshman and Transfers
- *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
- *Declaration of Major:* Change of Major forms accepted year-round; orientation/advising session required after declaration
- *Transferable Credit Hours:* 24

Degree Requirements
The B.A. in Mathematics with a Concentration in Actuarial Science degree program consists of a minimum of 40 credit hours of mathematics and statistics courses, one programming course in computer science, and 18 credit hours of related courses for VEE (Validation by Educational Experience) credit and Technical Skills. Students are also required to satisfy the Foreign Language requirement of the College of Liberal Arts & Sciences. The required General Education coursework (outside of the Department of Mathematics and Statistics) consists of an additional 28 or 29 credit hours. All UNC Charlotte students must have at least 120 earned credit hours in order to graduate.

General Education Courses (37-41 credit hours)
For details on required courses, refer to the General Education Program.

Foreign Language Requirement (0-8 credit hours)
For details, refer to the College of Liberal Arts & Sciences Foreign Language Requirements at the beginning of this section.

Major Courses (35 credit hours)
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 2242 - Calculus IV (3)
MATH 3163 - Introduction to Modern Algebra (3) (W)
MATH 3689 - Mathematics Project Seminar (1) (O)
MATH 4051 - Computer Exploration and Generation of Data (3) (O)
STAT 3122 - Probability and Statistics I (3)
STAT 3123 - Probability and Statistics II (3)
ITSC 1212 - Introduction to Computer Science I (4)

Concentration Courses (9 credit hours)
MATH 2228 - Mathematical Theory of Interest and Applications (3)
MATH 3228 - Financial Mathematics and General Cash Flows (3)
MATH 4228 - Actuarial Science IIA (3)

Note: The following courses prepare students for the following Actuarial Exams:
MATH 2228 - Mathematical Theory of Interest and Applications (3) *(Exam FM)*
MATH 3228 - Financial Mathematics and General Cash Flows (3) *(Exam FM)*
MATH 4228 - Actuarial Science IIA (3) *(Exam LTAM)*
MATH 4229 - Actuarial Science IIB (3) *(Exam LTAM)*
STAT 3122 - Probability and Statistics I (3) *(Exam P)*
STAT 3123 - Probability and Statistics II (3) *(Exam P and VEE Credit for Statistics)*

Restricted Elective Courses (18 credit hours)
Select 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 3222 - Investments (3)
FINN 3226 - Financial Theory and Practice (3)
FINN 3271 - Principles of Risk Management and Insurance (3)
INFO 2130 - Introduction to Business Computing (3)

Notes:
MATH 4226 - Mathematics of Financial Markets (3) *(prep course for actuarial Exam IFM)*
FINN 3222 - Investments (3) *(prep course for actuarial Exam IFM)*
ECON 2101 - Principles of Economics - Macro (3) *(VEE course for economics)*
ECON 2102 - Principles of Economics - Micro (3) *(VEE course for economics)*

ACCT 2121 - Principles of Accounting I (3) *(VEE course for financial management and accounting)*
FINN 3120 - Financial Management (3) *(VEE course for financial management and accounting)*

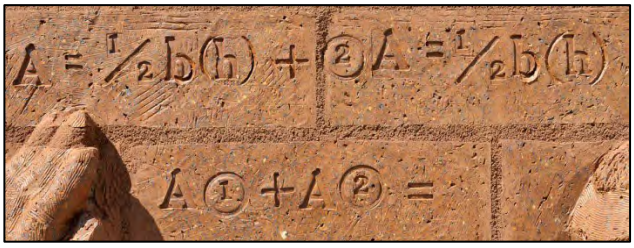
Students who receive a grade of B or above in these ACCT, ECON, and FINN courses may apply to have the Validation by Educational Experience (VEE) credit applied to their record.

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation. Suggested courses include:

MATH 4226 - Mathematics of Financial Markets (3)
MATH 4229 - Actuarial Science IIB (3)
STAT 3110 - Applied Regression (3) (W)
STAT 3150 - Time Series Analysis (3)
STAT 4116 - Statistical Computing (3)

Degree Total = 120 Credit Hours

Grade 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*

Admission Requirements
Freshman and Transfers
- *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
- *Declaration of Major:* Change of Major forms accepted year-round; orientation/advising session required after declaration
- *Transferable Credit Hours:* 24

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 (37-41 credit hours)
For details on required courses, refer to the General Education Program.

Foreign Language Requirement (0-8 credit hours)
For details, refer to the College of Liberal Arts & Sciences Foreign Language Requirements at the beginning of this section.

Major Courses (38 credit hours)
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 3688 - Mathematics Awareness Seminar (0)
MATH 3689 - Mathematics Project Seminar (1) (0)
STAT 2122 - Introduction to Probability and Statistics (3)*
STAT 2223 - Elements of Statistics II (3)*
STAT 3110 - Applied Regression (3) (W)
ITCS 1212 - Introduction to Computer Science (4)
ITCS 1212L - Programming Lab I (0)

Plus three of the following four Statistics courses: -
STAT 3140 - Design of Experiments (3)
STAT 3150 - Time Series Analysis (3)
STAT 3160 - Applied Multivariate Analysis (3) -
STAT 4116 - Statistical Computing (3)

**STAT 2122 and STAT 2223 may be replaced by MATH 3122/STAT 3122 and STAT 3123, or by STAT 3128 and STAT 3123.*

Restricted Elective Courses (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.

Recommended Course (3 credit hours)
ITCS 3160 - Data Design and Implementation (3)

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade 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

Admission Requirements
Freshman and Transfers
- *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

- *Declaration of Major:* Change of Major forms accepted year-round; orientation/advising session required after declaration
- *Transferable Credit Hours:* 24

Degree Requirements

A Major in Mathematics for the B.S. degree consists of a minimum of 40 credit hours of approved Mathematics (MATH), Operations Research (OPRS), or Statistics (STAT) courses; and one course in Computing and Informatics (ITSC). In addition to the requirements for the B.A. in Mathematics degree, the Major in Mathematics for the B.S. degree requires the completion of six additional hours of approved MATH, OPRS, or STAT courses numbered 3000 or above (exclusive of MATH 3163), and a minimum of 11 credit hours of science courses.

General Education Courses (37-41 credit hours)
For details on required courses, refer to the General Education Program.

Foreign Language Requirement (0-8 credit hours)
For details, refer to the College of Liberal Arts & Sciences Foreign Language Requirements at the beginning of this section.

Required Major Courses (minimum 35 credit hours)
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 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) (W)
MATH 3688 - Mathematics Awareness Seminar (0)
MATH 3689 - Mathematics Project Seminar (1) (0)
or MATH 3791 - Senior Honors Tutorial (3)
ITCS 1212 - Introduction to Computer Science (4)
ITCS 1212L - Programming Lab I (0)

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 Mathematics Elective Courses (9 credit hours)
Select from the following:

Mathematics (MATH)
MATH 3050 - Selected Topics in Mathematics (23)
MATH 3116 - Graph Theory (3)
MATH 3122 - Probability and Statistics I (3)
MATH 3123 - Probability and Statistics II (3)
MATH 3141 - Advanced Calculus of One Variable (3)
MATH 3142 - Advanced Calculus of Several Variables (3)
MATH 3146 - Introduction to Complex Analysis (3)
MATH 3163 - Introduction to Modern Algebra (3)
MATH 3166 - Combinatorics (3)
MATH 3171 - Applied Mathematics (3)
MATH 3176 - Numerical Analysis (3)
MATH 3181 - Fundamental Concepts of Geometry (3)
MATH 3228 - Financial Mathematics and General Cash Flows (3)
MATH 3800 - Directed Individual Study in Mathematics (1 to 3)
MATH 4000 - Topics in Foundations or History of Mathematics (23)
MATH 4040 - Topics in Analysis (23)
MATH 4051 - Computer Exploration and Generation of Data (3)
MATH 4060 - Topics in Algebra (23)
MATH 4080 - Topics in Geometry and Topology (3)
MATH 4109 - History of Mathematical Thought (3)
MATH 4122 - Probability and Stochastic Models (3)
MATH 4128 - Risk Theory (3)
MATH 4161 - Number Theory (3)
MATH 4163 - Modern Algebra (3)
MATH 4164 - Abstract Linear Algebra (3)
MATH 4181 - Introduction to Topology (3)
MATH 4226 - Mathematics of Financial Markets (3)
MATH 4228 - Actuarial Science IIA (3)
MATH 4229 - Actuarial Science IIB (3)
MATH 4691 - Seminar I in Mathematics and Statistics (1 to 3)
MATH 4692 - Seminar II in Mathematics and Statistics (1 to 3)

Operations Research (OPRS)
OPRS 3111 - Operations Research: Deterministic Models (3)
OPRS 3113 - Operations Research: Probabilistic Models (3)
OPRS 4010 - Topics in Decision Mathematics (23)
OPRS 4113 - Game Theory (3)
OPRS 4114 - Dynamic Programming (3)

Statistics (STAT)
STAT 3110 - Applied Regression (3)
STAT 3122 - Probability and Statistics I (3)
STAT 3123 - Probability and Statistics II (3)
STAT 3126 - Applied Statistical Methods (3)
STAT 3128 - Probability and Statistics for Engineers (3)
STAT 3140 - Design of Experiments (3)
STAT 3150 - Time Series Analysis (3)
STAT 3160 - Applied Multivariate Analysis (3)
STAT 4116 - Statistical Computing (3)
STAT 4123 - Applied Statistics I (3)
STAT 4124 - Applied Statistics II (3)

Restricted 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, PHYS, or PSYC 1101 and PSYC 1101L is permissible.

Restricted Related Elective Courses (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.

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade 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 (P, FM, IFM, LTAM). Required courses in economics, finance, and applied statistical methods also meet the Society of Actuaries requirements for Validation by Educational Experience (VEE).

Admission Requirements

Freshman and Transfers

- *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
- *Declaration of Major:* Change of Major forms accepted year-round; orientation/advising session required after declaration
- *Transferable Credit Hours:* 24

Degree Requirements

The B.S. in Mathematics with a Concentration in Actuarial Science degree program consists of a minimum of 43 credit hours of mathematics and statistics courses, one programming course in computer science, and 21 credit hours of related courses for VEE (Validation of Educational Experience) credit and Technical Skills. Students are also required to satisfy the Foreign Language requirement of the College of Liberal Arts & Sciences. The required General Education coursework (outside of the Department of Mathematics and Statistics) consists of an additional 28 or 29 credit hours. All UNC Charlotte students must have at least 120 earned credit hours in order to graduate.

General Education Courses (27-28 credit hours)
For details on required courses, refer to the General Education Program.

Foreign Language Requirement (0-8 credit hours)
For details, refer to the College of Liberal Arts & Sciences Foreign Language Requirements at the beginning of this section.

Major Courses (35 credit hours)
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 2242 - Calculus IV (3)
MATH 3163 - Introduction to Modern Algebra (3) (W)
MATH 3689 - Mathematics Project Seminar (1) (O)
MATH 4051 - Computer Exploration and Generation of Data (3) (O)
STAT 3122 - Probability and Statistics I (3)
STAT 3123 - Probability and Statistics II (3)
ITSC 1212 - Introduction to Computer Science I (4)

Concentration Courses (12 credit hours)
MATH 2228 Actuarial Science IA (3)
MATH 3228 Actuarial Science IB (3)
MATH 4228 Actuarial Science IIA (3)
MATH 4229 Actuarial Science IIB (3)

Note: The following courses prepare students for the following Actuarial Exams:
MATH 2228 - Mathematical Theory of Interest and Applications (3) *(Exam FM)*
MATH 3228 - Financial Mathematics and General Cash Flows (3) *(Exam FM)*
MATH 4228 - Actuarial Science IIA (3) *(Exam LTAM)*
MATH 4229 - Actuarial Science IIB (3) *(Exam LTAM)*
STAT 3122 - Probability and Statistics I (3) *(Exam P)*
STAT 3123 - Probability and Statistics II (3) *(Exam P and VEE Credit for Statistics)*

Restricted Elective Courses (18 credit hours)
Select 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 3222 - Investments (3)
FINN 3226 - Financial Theory and Practice (3)
FINN 3271 - Principles of Risk Management and Insurance (3)
INFO 2130 - Introduction to Business Computing (3)

Notes:
MATH 4226 - Mathematics of Financial Markets (3) *(prep course for actuarial Exam IFM)*
FINN 3222 - Investments (3) *(prep course for actuarial Exam IFM)*
ECON 2101 - Principles of Economics - Macro (3) *(VEE course for economics)*

ECON 2102 - Principles of Economics - Micro (3) *(VEE course for economics)*
ACCT 2121 - Principles of Accounting I (3) *(VEE course for financial management and accounting)*
FINN 3120 - Financial Management (3) *(VEE course for financial management and accounting)*

Students who receive a grade of B or above in these ACCT, ECON, and FINN courses may apply to have the Validation by Educational Experience (VEE) credit applied to their record.

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation. Suggested courses include:

MATH 4226 - Mathematics of Financial Markets (3)
MATH 4229 - Actuarial Science IIB (3)
STAT 3110 - Applied Regression (3) (W)
STAT 3150 - Time Series Analysis (3)
STAT 4116 - Statistical Computing (3)

Degree Total = 120 Credit Hours

Grade 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*

Admission Requirements
Freshman and Transfers
- *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
- *Declaration of Major:* Change of Major forms accepted year-round; orientation/advising session required after declaration
- *Transferable Credit Hours:* 24

Degree Requirements
A Bachelor of Science degree in Mathematics with a Concentration in Statistics consists of a minimum of 40 hours of Mathematics and Statistics 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 (37-41 credit hours)
For details on required courses, refer to the General Education Program.

Foreign Language Requirement (0-8 credit hours)
For details, refer to the College of Liberal Arts & Sciences Foreign Language Requirements at the beginning of this section.

Major Courses (44 credit hours)
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 3141 - Advanced Calculus of One Variable (3)
MATH 3688 - Mathematics Awareness Seminar (0)
MATH 3689 - Mathematics Project Seminar (1) (0)
STAT 2122 - Introduction to Probability and Statistics (3)*
STAT 3110 - Applied Regression (3) (W)
STAT 3122 - Probability and Statistics I (3)
STAT 3123 - Probability and Statistics II (3)
ITCS 1212 - Introduction to Computer Science (4)
ITCS 1212L - Programming Lab I (0)

Plus three of the following four Statistics courses: -
STAT 3140 - Design of Experiments (3)
STAT 3150 - Time Series Analysis (3)
STAT 3160 - Applied Multivariate Analysis (3) -
STAT 4116 - Statistical Computing (3)

Restricted Elective Courses (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.

Recommended Course (3 credit hours)
ITCS 3160 Data Design and Implementation (3)

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade 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 for Business

Admission Requirements

Freshman and Transfers

- *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
- *Declaration of Major:* Change of Major forms accepted year-round; orientation/advising session required after declaration
- *Transferable Credit Hours:* 24

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 (37-41 credit hours)

For details on required courses, refer to the General Education Program.

Foreign Language Requirement (0-8 credit hours)

For details, refer to the College of Liberal Arts & Sciences Foreign Language Requirements at the beginning of this section.

Major Courses (31 credit hours)

MATH 1120 - Calculus (3)
MATH 2120 - Intermediate Applied Calculus (3)
MATH 2164 - Matrices and Linear Algebra (3) -
MATH 2228 - Mathematical Theory of Interest and Applications (3)
MATH 4051 - Computer Exploration and Generation of Data (3) (0)
OPRS 3111 - Operations Research: Deterministic Models (3)
STAT 1220 - Elements of Statistics I (BUSN) (3)
STAT 2223 - Elements of Statistics II (3)
STAT 3110 - Applied Regression (3) (W)
ITCS 1212 - Introduction to Computer Science (4)
ITCS 1212L - Programming Lab I (0)

Restricted Mathematics Elective Courses (9 credit hours)

Select 9 credit hours of approved courses from MATH, STAT, or OPRS at the 3000-level or above.

Restricted Related Elective Courses (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.

Unrestricted Elective Courses

As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade 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

Freshman and Transfers

- *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
- *Declaration of Major:* Change of Major forms accepted year-round; orientation/advising session required after declaration
- *Transferable Credit Hours:* 24

Degree Requirements

A Major in Mathematics for Business for the B.S. degree consists of a minimum of 45 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 (37-41 credit hours)

For details on required courses, refer to the General Education Program.

Foreign Language Requirement (0-8 credit hours)

For details, refer to the College of Liberal Arts & Sciences Foreign Language Requirements at the beginning of this section.

Major Courses (37 credit hours)

MATH 1241 - Calculus I (3)
MATH 1242 - Calculus II (3)
MATH 2164 - Matrices and Linear Algebra (3) -
MATH 2171 - Differential Equations (3)
MATH 2228 - Mathematical Theory of Interest and Applications (3)
MATH 2241 - Calculus III (3)
MATH 4051 - Computer Exploration and Generation of Data (3) (0)
OPRS 3111 - Operations Research: Deterministic Models (3)
STAT 2223 - Elements of Statistics II (3)
or STAT 3123 - Probability and Statistics II (3)
STAT 3110 - Applied Regression (3) (W)

STAT 3122 - Probability and Statistics I (3)
ITCS 1212 - Introduction to Computer Science (4)
ITCS 1212L - Programming Lab I (0)

Concentration Courses (12 credit hours)
Students majoring in Mathematics for Business must select one of the three 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 - Actuarial Science IIA (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 4226 - Mathematics of Financial Markets (3)
MATH 4229 - Actuarial Science IIB (3)

The following courses prepare students for the following Actuarial Exams:

STAT 3122 - Probability and Statistics I (3) (Exam P)
STAT 3123 - Probability and Statistics II (3) (Exam P)
MATH 2228 - Mathematical Theory of Interest and Applications (3) (Exam FM)
MATH 3228 - Financial Mathematics and General Cash Flows (3) (Exam FM)
MATH 4228 - Actuarial Science IIA (3) (Exam LTAM)
MATH 4229 - Actuarial Science IIB (3) (Exam LTAM)
MATH 4226 - Mathematics of Financial Markets (3) (Exam IFM)
FINN 3222 - Investments (3) (Exam IFM)
STAT 3123 - Probability and Statistics II (3) (VEE Credit for Statistics)

Concentration in Operations Research
Required Courses
OPRS 3113 - Operations Research: Probabilistic Models (3)
OPRS 4113 - Game Theory (3)
OPRS 4114 - Dynamic Programming (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)

Restricted Elective Courses (18 credit hours)
Select six of the following. 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.

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 3222 - Investments (3)
FINN 3226 - Financial Theory and Practice (3)
FINN 3271 - Principles of Risk Management and Insurance (3)
INFO 2130 - Introduction to Business Computing (3)

Note: Students in the Actuarial Science Concentration must take the following courses from the list above. With a grade of B or above in these courses, they will receive Validation by Educational Experience (VEE) credit in Economics, Financial Management, and Accounting.

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)

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade Requirements
An overall GPA of at least 2.0 and a GPA of at least 2.0 in all math courses is required.

Teacher Licensure in Mathematics
Students preparing for licensure to teach mathematics in secondary school (grades 9-12) must Major in Mathematics. They may select either the B.A. or the B.S. degree track, but their coursework must include:

Required Courses
MATH 3181 - Fundamental Concepts of Geometry (3)
MATH 4109 - History of Mathematical Thought (3)
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)
STAT course together with a Minor in Secondary Education

Before the end of their Sophomore year, students should complete MDSK 2100 (Foundations of Education in Secondary Schools) and obtain an application for formal admission to the teacher education program in the Department of Middle, Secondary, and K-12 Education. Once they are approved for the Teacher Education program, students are enrolled in the Minor in Secondary Education. The minor requires 4 additional courses from the College of Education and one semester of student teaching. Detailed information is available in the Department of Mathematics and Statistics office. 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 Mathematics

A Minor in Mathematics requires 18 credit hours

Minor Requirements

Required Courses (9 credit hours)
MATH 1241 - Calculus I (3)
MATH 1242 - Calculus II (3)
MATH 2164 - Matrices and Linear Algebra (3) -
and/or MATH 2171 - Differential Equations (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 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)

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

Grade Requirements

A minimum GPA of at least 2.0 in all 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.

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 2228 - Mathematical Theory of Interest and Applications (3)
MATH 2241 - Calculus III (3)
MATH 3122 - Probability and Statistics I (3)
or STAT 3122 - Probability and Statistics I (3)
MATH 3228 - Financial Mathematics and General Cash Flows (3)

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 (Actuarial Science IIA).

Minor Total = 21 Credit Hours

Grade Requirements

A minimum GPA of at least 2.0 in all courses is required.

Minor in Statistics

A Minor in Statistics requires 18 credit hours. This minor is not available to students majoring in a mathematics program.

Minor Requirements

Calculus Courses (6 credit hours)
Select one of the following:
MATH 1120 - Calculus (3)
MATH 1121 - Calculus for Engineering Technology (3)
MATH 1241 - Calculus I (3)*

Select one of the following:
MATH 2120 - Intermediate Applied Calculus (3)
MATH 2241 - Calculus III (3)*

**Note: MATH 1241 is a prerequisite for MATH 2241.*

Statistics Courses (9 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)
STAT 2122 - Introduction to Probability and Statistics (3)

Required Course:
STAT 2223 - Elements of Statistics II (3)

Select one of the following:
STAT 3110 - Applied Regression (3) (W)
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) (W)
COMM 3100 - Communication Research Methods (3) (W)
ECON 3112 - Econometrics (3)
OPER 3206 - Quality Assurance and Management (3)
POLS 2220 - Political Science Methods (4) (W)
PSYC 3140 - Basic Processes in Psychological Assessment (3)
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 is not listed above, then they may take a second course from the following:
STAT 3110 - Applied Regression (3) (W)
STAT 3140 - Design of Experiments (3)
STAT 3150 - Time Series Analysis (3)
STAT 3160 - Applied Multivariate Analysis (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

To be admitted into the Certificate in Actuarial Studies program, students who already have completed a bachelor's degree must meet the general University requirements for admission into Undergraduate Certificate Programs. Their undergraduate coursework must include Calculus I, II, and III. These courses are prerequisites for the first two required courses in the program. Undergraduate students at UNC Charlotte must apply for the Actuarial Concentration in either the B.A. or B.S. in Mathematics or the B.S. in Mathematics for Business. Both of these programs require the three calculus courses that are prerequisites for the required actuarial and statistics courses. For students in these programs, a form to declare the certificate is available in the Department of Mathematics and Statistics.

Certificate Requirements

The certificate requires 18 credit hours of mathematics coursework that prepare students for Actuarial Exams and VEE Credits. Note that MATH 2228 and MATH 3228 are prep courses for Exam FM (Financial Mathematics), STAT 3122 and STAT 3123 for Exam P (Probability), MATH 4228 and MATH 4229 for Exam LTAM (Long-Term Actuarial Mathematics), and MATH 4226 for Exam IFM (Investment and Financial Markets).

Core Courses (12 credit hours)
MATH 2228 - Mathematical Theory of Interest and Applications (3)
MATH 3228 - Financial Mathematics and General Cash Flows (3)
MATH 4228 - Actuarial Science IIA (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) (O)
MATH 4226 - Mathematics of Financial Markets (3)
MATH 4229 - Actuarial Science IIB (3)
STAT 3110 - Applied Regression (3) (W)
STAT 3123 - Probability and Statistics II (3)
STAT 3150 - Time Series Analysis (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)
FINN 3222 - Investments (3)
MATH 4122 - Probability and Stochastic Models (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

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)

Certification 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

- 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

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
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree

Double-Counted Courses

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).

More Information

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 Mathematical Finance

For details, see the College of Business section of this *Catalog* under the "Department of Finance" heading.

Department of Philosophy

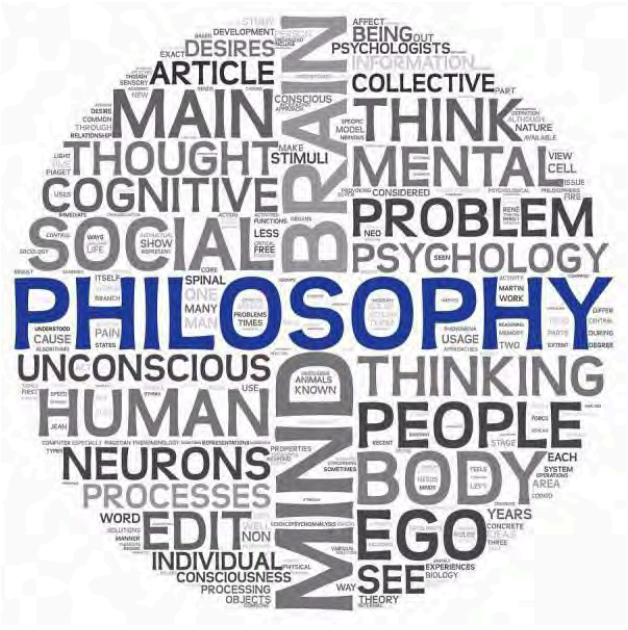
philosophy.charlotte.edu

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.

Bachelor of Arts in Philosophy

Admission Requirements

Freshmen and Transfers

- *Minimum GPA:* 2.0
- *Declaration of Major:* Change of Major form accepted year-found; orientation/advising session required in order to declare
- *Transferable Credit Hours:* 24

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 9 credit hours below the 3000-level counting toward the major.

General Education Courses (37-41 credit hours)
For details on required courses, refer to the General Education Program.

Foreign Language Requirement (0-8 credit hours)
For details, refer to the College of Liberal Arts & Sciences Foreign Language Requirements at the beginning of this section.

Foundation Courses (9 credit hours)
PHIL 1105 - Critical Thinking (3) (W)
PHIL 3620 - Senior Seminar (3) (O,W)

Plus select one of the following:
PHIL 1001 - Philosophy of Death and Dying (3)
PHIL 1002 - Philosophy of Love and Sex (3)
PHIL 1101 - Introduction to Philosophy (3)
PHIL 1102 - Introduction to Philosophy - Writing Intensive (3) (W)

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 3010 - Ancient Philosophy (3)
PHIL 3020 - Modern Philosophy (3)
PHIL 3030 - Twentieth Century Philosophy (3)
PHIL 3110 - Medieval Philosophy (3)
PHIL 3120 - Nineteenth Century Philosophy (3)
PHIL 3130 - American Philosophy (3)
PHIL 3140 - Existentialism (3)
PHIL 3170 - Major Figure (3)
PHIL 3190 - Topics in History/Genealogy (3)
PHIL 4190 - Advanced Topics in History/Genealogy (3)

Ethics/Aesthetics Courses
PHIL 3210 - Ethical Theory (3)
PHIL 3220 - Aesthetics (3)
PHIL 3230 - Healthcare Ethics (3)

PHIL 3239 - Ethics Bowl Prep (3) (O, W)
PHIL 3240 - Ethics Bowl I (3) (O, W)
PHIL 3310 - IT Ethics (3)
PHIL 3320 - Engineering Ethics (3)
PHIL 3330 - Philosophy and Literature (3)
PHIL 3340 - Business Ethics (3)
PHIL 3390 - Topics in Ethics/Aesthetics (3)
PHIL 4390 - Advanced Topics in Ethics/Aesthetics (3)

Knowledge/Language Courses
PHIL 3410 - Knowledge and Reality (3)
PHIL 3420 - Philosophy of Language (3)
PHIL 3430 - Mind, Cognition, and Behavior (3)
PHIL 3510 - Advanced Logic (3)
PHIL 3520 - Philosophy of Science (3)
PHIL 3530 - Philosophy of Religion (3)
PHIL 3590 - Topics in Knowledge/Language (3)
PHIL 4590 - Advanced Topics in Knowledge/Language (3)

Identity/Society Courses
PHIL 3810 - Social and Political Philosophy (3)
PHIL 3820 - Feminist Philosophy (3)
PHIL 3830 - Philosophy and Race (3)
PHIL 3910 - Philosophy of War and Peace (3)
PHIL 3920 - Philosophy of Technology (3)
PHIL 3930 - Philosophy of Body (3)
PHIL 3940 - Philosophy of Education (3)
PHIL 3990 - Topics in Identity/Society (3)
PHIL 4990 - Advanced Topics in Identity/Society (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 2105 - Deductive Logic (3)
PHIL 3480 - Internship in Ethics and Philosophy (3)
PHIL 3610 - Independent Study (1 to 3)
PHIL 3791 - Honors Thesis (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.

Degree Total = 120 Credit Hours

Grade Requirements
A GPA of 2.0 is required for all philosophy courses applied to the major.

Minor in Philosophy
A Minor in Philosophy consists of 18 credit hours of philosophy courses.

Minor Requirements
Foundation Courses (6 credit hours)
PHIL 1105 - Critical Thinking (3) (W)

Plus select one of the following:
PHIL 1001 - Philosophy of Death and Dying (3)
PHIL 1002 - Philosophy of Love and Sex (3)
PHIL 1101 - Introduction to Philosophy (3)
PHIL 1102 - Introduction to Philosophy - Writing Intensive (3) (W)

Required Courses (6 credit hours)
Select one course from two of the following four categories:

History/Genealogy Courses
PHIL 3010 - Ancient Philosophy (3)
PHIL 3020 - Modern Philosophy (3)
PHIL 3030 - Twentieth Century Philosophy (3)
PHIL 3110 - Medieval Philosophy (3)
PHIL 3120 - Nineteenth Century Philosophy (3)
PHIL 3130 - American Philosophy (3)
PHIL 3140 - Existentialism (3)
PHIL 3170 - Major Figure (3)
PHIL 3190 - Topics in History/Genealogy (3)
PHIL 4190 - Advanced Topics in History/Genealogy (3)

Ethics/Aesthetics Courses
PHIL 3210 - Ethical Theory (3)
PHIL 3220 - Aesthetics (3)
PHIL 3230 - Healthcare Ethics (3)
PHIL 3239 - Ethics Bowl Prep (3) (O, W)
PHIL 3240 - Ethics Bowl I (3) (O, W)
PHIL 3310 - IT Ethics (3)
PHIL 3320 - Engineering Ethics (3)
PHIL 3330 - Philosophy and Literature (3)
PHIL 3340 - Business Ethics (3)
PHIL 3390 - Topics in Ethics/Aesthetics (3)
PHIL 4390 - Advanced Topics in Ethics/Aesthetics (3)

Knowledge/Language Courses
PHIL 3410 - Knowledge and Reality (3)
PHIL 3420 - Philosophy of Language (3)
PHIL 3430 - Mind, Cognition, and Behavior (3)
PHIL 3510 - Advanced Logic (3)
PHIL 3520 - Philosophy of Science (3)
PHIL 3530 - Philosophy of Religion (3)
PHIL 3590 - Topics in Knowledge/Language (3)
PHIL 4590 - Advanced Topics in Knowledge/Language (3)

Identity/Society Courses
PHIL 3810 - Social and Political Philosophy (3)
PHIL 3820 - Feminist Philosophy (3)
PHIL 3830 - Philosophy and Race (3)
PHIL 3910 - Philosophy of War and Peace (3)
PHIL 3920 - Philosophy of Technology (3)
PHIL 3930 - Philosophy of Body (3)
PHIL 3940 - Philosophy of Education (3)
PHIL 3990 - Topics in Identity/Society (3)
PHIL 4990 - Advanced Topics in Identity/Society (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 2105 - Deductive Logic (3)

PHIL 3480 - Internship in Ethics and Philosophy (3)
PHIL 3610 - Independent Study (1 to 3)

Minor Total = 18 Credit Hours

Grade 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
- 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 3791 - Honors Thesis (3)
- One 3 credit hour course chosen by the student from Honors College courses (while ideally this course should be in philosophy, it does not have to be)

Certification Requirements
- Students must compose a thesis committee consisting of three UNC Charlotte faculty. At least two of the members must be in the Department of Philosophy; the third may be from a relevant department or program (e.g., WGST if writing on gender, CHHS if writing on bioethics).
- 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 thesis director. The director 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 is completed when the student proposes a thesis project
    - Part two is completed when the student successfully completes the thesis project
- Oral Thesis Defense
- Once PHIL 3791 is completed and the written thesis is submitted to the thesis committee, the student orally defends the thesis before his or her committee, other faculty, and students. See Steps/Procedures for more details on the oral defense.

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
- 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
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree

Double-Counted Courses

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).

More Information

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 Physics and Optical Science

physics.charlotte.edu

Undergraduate Programs

- B.A. in Physics
  - Honors Program
- B.S. in Physics
  - Honors Program
- B.S. Dual Degree in Physics and Computer Engineering *(see College of Engineering section under the Department of Electrical and Computer Engineering heading)*
- B.S. Dual Degree in Physics and Electrical Engineering *(see College of Engineering section under the Department of Electrical and Computer Engineering heading)*
- B.S. Dual Degree in Physics and Mechanical Engineering *(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 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 Computer, Electrical, or Mechanical Engineering, where Engineering students at UNC Charlotte have the opportunity to earn both an engineering degree and a B.S. 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.

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

- *Minimum GPA: n/a*
- *Declaration of Major:* Students should declare a Physics major in their Freshman or Sophomore year.

Transfers

- *Minimum GPA:* 2.0
- *Transferable Credit Hours:* 24

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 (37-41 credit hours)

For details on required courses, refer to the General Education Program.

Foreign Language Requirement (0-8 credit hours)

For details, refer to the College of Liberal Arts & Sciences Foreign Language Requirements at the beginning of this section.

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)

Plus one of the following lab courses:
PHYS 3282 - Advanced Laboratory in Modern Physics (3) (O, W)
PHYS 3283 - Advanced Laboratory in Classical Physics (3) (W)

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 3000, PHYS 3900, PHYS 4000, or PHYS 4800 may be used to fulfill the PHYS course requirements only if approved in advance for this purpose by the Undergraduate Studies Committee.*

Unrestricted Elective Courses

As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade 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

- *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:* 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.

Transfers

- *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

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 (37-41 credit hours)

For details on required courses, refer to the General Education Program.

Foreign Language Requirement (0-8 credit hours)

For details, refer to the College of Liberal Arts & Sciences Foreign Language Requirements at the beginning of this section.

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) (O,W)
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) (W)

Restricted Elective Courses (6 credit hours)

*Select two of the following**:*
PHYS 3160 - Stellar Astrophysics (3)
PHYS 3283 - Advanced Laboratory in Classical Physics (3) (W)
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 3000, PHYS 3900, PHYS 4000, or PHYS 4800 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.*

Unrestricted Elective Courses

As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade 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.

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 3000, PHYS 3900, PHYS 4000, or PHYS 4800 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

Grade Requirements

PHYS courses must be completed with a GPA of C or above.

Honors Program in Physics

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

- 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

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
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree

Double-Counted Courses

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).

More Information

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

- Minimum high school GPA of 3.75 (on a 4.0 scale)
- Minimum score of 1220 on SAT

Continued Enrollment Requirements

Students must maintain a strong academic record at both the undergraduate and graduate levels with a cumulative GPA of 3.0 or above.

Double-Counted Courses

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).

More Information

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

- 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

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
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree

Double-Counted Courses

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).

More Information

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 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 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.

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

- *Minimum GPA:* 2.0
- *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
- *Transferable Credit Hours:* 24

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 (37-41 credit hours)
For details on required courses, refer to the General Education Program.

Foreign Language Requirement (0-8 credit hours)
For details, refer to the College of Liberal Arts & Sciences Foreign Language Requirements at the beginning of this section.

Major Courses (30 credit hours)
Major Core Courses (13 credit hours)
Introductory Courses (9 credit hours)
POLS 1110 - American Politics (3) *
POLS 1130 - 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 1110.*
*** Students who receive an evaluation of Qualified (3) or above on the Advanced Placement examination in Comparative Politics will receive credit for POLS 1130.*

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 (W) 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) (W)
COMM 3100 - Communication Research Methods (3) (W) *(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 2103 - Research Methodology II (3) (W) *(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)

Senior Course (3 credit hours)
Select one of the following:
POLS 4110 - North Carolina Student Legislature (3) (O,W) ***
POLS 4163 - Advanced Model United Nations (3) (O,W) ***
POLS 4600 - Senior Seminar (3) (O,W)
POLS 4700 - Honors Thesis (3) (O,W)
POLS 4990 - Senior Thesis (3) (O,W)

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.*

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade 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
- *Minimum GPA:* 2.0 in POLS courses
- *Other Requirements:* Political Science major
- *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 (37-41 credit hours)
For details on required courses, refer to the General Education Program.

Foreign Language Requirement (0-8 credit hours)
For details, refer to the College of Liberal Arts & Sciences Foreign Language Requirements at the beginning of this section.

Major Courses (30 credit hours)
Major Core Courses (12-13 credit hours)
Required Core Courses (9 credit hours)
POLS 1110 - American Politics (3) *
POLS 1130 - Comparative Politics (3) **
POLS 1150 - International Politics (3)

Elective Core Course (3-4 credit hours)
Select one of the following:
POLS 2220 - Political Science Methods (4) (W) ***
CJUS 2370 - Research Methods in Criminal Justice (3)
COMM 3100 - Communication Research Methods (3) (W)
PSYC 2103 - Research Methodology II (3) (W)
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 1110.*

*** Students who receive an evaluation of Qualified (3) or above on the Advanced Placement examination in Comparative Politics will receive credit for POLS 1130.*

**** POLS 2220 and one of the Senior Courses listed below fulfill the writing intensive courses (W) required for graduation. If an equivalent social science methods course is taken that is not a writing intensive course, then another writing intensive course needs to be taken.*

Major Concentration Courses (9 credit hours)
POLS 4380 - Intelligence in a Democratic Society (3)
POLS 4381 - Critical Thinking Skills for Intelligence (3)
POLS 4383 - 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)

Senior Course (3 credit hours)
Select one of the following:
POLS 4110 - North Carolina Student Legislature (3) (O,W)
POLS 4163 - Advanced Model United Nations (3) (O,W)
POLS 4600 - Senior Seminar (3) (O,W)
POLS 4700 - Honors Thesis (3) (O,W)
POLS 4990 - Senior Thesis (3) (O,W)

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.

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade 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
Minimum GPA: 2.0
Declaration of Major: Teaching license orientation/advising session required upon declaration of major
Transferable Credit Hours: 24

Degree Requirements
General Education Courses (37-41 credit hours)
For details on required courses, refer to the General Education Program.

Foreign Language Requirement (0-8 credit hours)
For details, refer to the College of Liberal Arts & Sciences Foreign Language Requirement .

Foundation Courses (9 credit hours)
POLS 1110 - American Politics (3)
POLS 1130 - Comparative Politics (3)
POLS 1150 - International 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 and one of the Senior Courses listed below fulfill the writing intensive courses (W) 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) (W)
CJUS 2370 - Research Methods in Criminal Justice (3) *(for double major in Political Science and Criminal Justice)*

COMM 3100 - Communication Research Methods (3) (W) *(for double major in Political Science and Communication Studies)*
PSYC 2103 - Research Methodology II (3) (W) *(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)

Senior Course (3 credit hours)
Select one of the following:
POLS 4110 - North Carolina Student Legislature (3) (O,W)
POLS 4163 - Advanced Model United Nations (3) (O,W)
POLS 4600 - Senior Seminar (3) (O,W)
POLS 4700 - Honors Thesis (3) (O,W)
POLS 4990 - Senior Thesis (3) (O,W)

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)
GEOG 1101 - World Regional Geography (3)
HIST 1121 - European History Since 1660 (3)
HIST 1160 - U.S. History to 1865 (3)
HIST 1161 - U.S. History Since 1865 (3)
HIST xxxx - Non-Western History Course (e.g., HIST 2201, HIST 2207, HIST 2215, or HIST 2216)
ECON xxxx - Economics Course (ECON 1101 is recommended)

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

Grade 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.

Minor Requirements

Required Courses (9 credit hours)
POLS 1110 - American Politics (3)
POLS 1130 - Comparative Politics (3)
POLS 1150 - International 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 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.

Minor Requirements

Required Courses (9 credit hours)
POLS 4380 - Intelligence in a Democratic Society (3)
POLS 4381 - Critical Thinking Skills for Intelligence (3)
POLS 4383 - 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 3190 - Political Economy of the Caribbean (3)
AFRS 3265 - African Economic Development (3)
AFRS 4105 - African International Relations (3)
AFRS 4630 - Environmental and Public Health in Africa (3) (O)
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)
SWAH 1201 - Elementary Swahili I (4)
SWAH 1202 - Elementary Swahili II (4)

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
AFRS 3190 - Political Economy of the Caribbean (3)
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 1201L - Elementary Chinese I Lab (1)
CHNS 1202 - Elementary Chinese II (3)
CHNS 1202L - Elementary Chinese II Lab (1)
JAPN 1201 - Elementary Japanese I (3)
JAPN 1202 - Elementary Japanese II (3)
HIST 2201 - History of Modern Asia (3)
HIST 3160 - History of Modern China (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) (O,W) (Topics: International Conflict, Gambling and War, Politics of the Resource Curse)

Methods, Analysis, and Argumentation
CJUS 3363 - Mediation and Conflict Resolution (3) (O)
CJUS 3365 - Interviewing in Criminal Justice (3) (O)
CJUS 4370 - Data Analytics and Crime (3) (W)
CJUS 4371 - Criminal Data Sources, Data Management, and Cleaning (3) (W)
CJUS 4373 - Intelligence Analysis and Security Analytics (3) (W)
CJUS 4374 - Geospatial Analytics and Crime (3) (W)
CJUS 4376 - Social Network Analysis (3) (W)
CJUS 4377 - Crime Measurement and Data Visualization (3) (W)
WRDS 2101 - Advanced Writing: Research and Critical Analysis (3) (W)
WRDS 3102 - The Effective Sentence: A Writing Course for All Majors (3) (W)

International Crime
CJUS 3364 - The Administration of Criminal Justice (3) (O,W)
CJUS 3381 - Security and Loss Prevention (3)
CJUS 4361 - International Criminal Justice (3)
CJUS 4362 - Computer Crime (3)
CJUS 4372 - Drug Analytics (3) (W)
CJUS 4375 - Community-Oriented Policing, Problem-Solving, and Crime Analysis (3) (W)
CJUS 4378 - Causes and Consequences of Crime (3) (W)

Minor Total = 18 Credit Hours

Grade Requirements
Minimum GPA of 2.0 in all courses taken toward the minor.

Honors Program in Political Science

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 can 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.

Certification 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

- 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

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
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree

Double-Counted Courses

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).

More Information

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 thick 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.

Bachelor of Science in Psychology

Admission Requirements

Freshmen

- *Minimum GPA:* 2.0
- *Pre-Major/Prerequisite Courses:* At least 12 credit hours of completed coursework at UNC Charlotte and completion of the following with grades of C or above:
  - PSYC 1101 (within 2 attempts)
  - A Statistics course (within 2 attempts)
  - A General Education science course with a lab outside the subject of Psychology
- *Declaration of Major:* Incoming freshmen may enter UNC Charlotte as declared Psychology majors. Applications to declare the major or minor are accepted during approximately the 2nd month of classes each Fall and Spring term, as stated on the Department of Psychology website.

Transfers

- *Minimum GPA:* 2.0
- *Transferable Credit Hours:* 24

Degree Requirements

A minimum of 120 total earned credit hours is required for the degree. The Major in Psychology requires 42 credit hours of coursework in the major. Psychology coursework in five areas is required: Research Methods/Critical Thinking Skills, Knowledge Base, Application of Psychology, 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 (30-34 credit hours)

For details on required courses, refer to the General Education Program.

Foreign Language Requirement (0-8 credit hours)

For details, refer to the College of Liberal Arts & Sciences Foreign Language Requirements at the beginning of this section.

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.

Research Methods and Critical Thinking Area Courses (15 credit hours)

PSYC 1101 - General Psychology (3)

PSYC 2101 - Research Methodology I (3)
PSYC 2103 - Research Methodology II (3) (W)
or PSYC 2104 - Critical Thinking About Research (3) (W)
PSYC 2113 - Introduction to Brain and Behavior (3)
STAT 1220 - Elements of Statistics I (BUSN) (3)
or STAT 1221 - Elements of Statistics I (3)
or STAT 1222 - Introduction to Statistics (3)

Knowledge Base Area Courses (12 credit hours)
Select one course from each sub-area:

Learning and Cognition
PSYC 3111 - Psychology of Learning and Memory (3)
PSYC 3115 - Sensation and Perception (3)
PSYC 3116 - Human Cognitive Processes (3)
PSYC 3216 - Introduction to Cognitive Science (3) -

Sociocultural Approaches
PSYC 2130 - Social Psychology (3)
PSYC 3114 - Motivation (3)
PSYC 3135 - Psychology of Personality (3)

Biological Basis of Behavior
PSYC 2110 - Comparative Psychology (3)
PSYC 3113 - Physiological Psychology (3)
PSYC 3117 - Hereditary Behavior (3)
PSYC 3313 - Neuropsychology (3)
PSYC 4316 - Cognitive Neurowscience (3)

Developmental Changes
PSYC 2120 - Child Psychology (3)
PSYC 2121 - Adolescent Psychology (3)
PSYC 2124 - Psychology of Adult Development and Aging (3) -

Application of Psychology Area Courses (6 credit hours)
Select two of the following courses; both may be from the same area:

Personal Applications
PSYC 2150 - Psychology of Adjustment (3)
PSYC 2151 - Abnormal Psychology (3)
PSYC 2160 - Introduction to Health Psychology (3)
PSYC 3153 - Introduction to Clinical Psychology (3)

Social Applications
PSYC 2126 - Introduction to the Psychology of Women and Gender (3)
PSYC 2155 - Psychological Approaches to Diversity (3)
PSYC 3155 - Introduction to Community Psychology (3)

Organizational Applications
PSYC 2171 - Introduction to Industrial/Organizational Psychology (3)
PSYC 3140 - Basic Processes in Psychological Assessment (3)
PSYC 3172 - Psychology of Personnel: Employee Selection and Classification (3)
PSYC 3174 - Organizational Psychology (3)

Experimental Applications
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 3807 - Peer Advising (2)
PSYC 3808 - Undergraduate Teaching Assistantship (3)

Note: No more than 6 credit hours in each Experimental Applications course may be applied toward the major. Additional hours may be applied to the Elective Courses.

Restricted Elective Courses (6 credit hours)
Select two of the following:
PSYC 1000 - The Science and Practice of Psychology (3)
PSYC 2100 - Psychology Success Strategies for Transfer Students (3)
PSYC 2126 - Introduction to the Psychology of Women and Gender (3)
PSYC 2131 - Introduction to Forensic Psychology (3)
PSYC 2137 - Introduction to Positive Psychology (3)
PSYC 2160 - Introduction to Health Psychology (3)
PSYC 3001 - Topics in Psychology (1 to 3)
PSYC 3002 - Topics in Psychological Research (3) (W)
PSYC 3122 - Cognitive and Language Development (3)
PSYC 3123 - Social and Personality Development (3)
PSYC 3125 - Older Worker and Retirement (3)
or GRNT 3125 - Older Worker and Retirement (3)
or SOCY 3125 - Older Worker and Retirement (3)
PSYC 3136 - Sexual Behavior (3)
PSYC 3152 - Child Psychopathology (3)
PSYC 4701 - Honors Thesis I (3)
Any PSYC course in the Knowledge Base or Application of Psychology Areas above
AFRS 3261 - Psychology of the Black Experience (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 2103 or PSYC 2104, and any additional prerequisites as required by the individual course. A Capstone course may not be taken during the same term as PSYC 2103 or PSYC 2104. Only one Senior Seminar may be taken. Students may select their Capstone from the following list of courses:

PSYC 4006 - Advanced Topics in Psychology (3)
PSYC 4007 - Advanced Topics in Psychological Research (3) (W)
PSYC 4103 - History and Systems of Psychology (3)
PSYC 4612 - Seminar in Behavior Modification (3)
PSYC 4613 - Seminar in Physiological Psychology (3) (O,W)
PSYC 4619 - Seminar in Experimental Psychology (3) (O,W)
PSYC 4625 - Seminar in Developmental Psychology (3) (O,W)
PSYC 4630 - Seminar in Social Psychology (3) (O,W)
PSYC 4650 - Seminar in Human Adaptation and Behavior (3) (O,W)
PSYC 4655 - Seminar in Community Psychology (3) (O,W)
PSYC 4660 - Seminar in Health Psychology (3) (O,W)
PSYC 4670 - Seminar in Industrial Psychology (3) (O,W)
PSYC 4702 - Honors Thesis II (3) (O,W)

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation. Students in the Psychology major are strongly encouraged to combine their Psychology major with a minor or second major. UNC Charlotte offers a wide range of minors to complement and otherwise enrich student readiness for workplace settings that demand effective communication, critical thinking and problem solving skills, digital

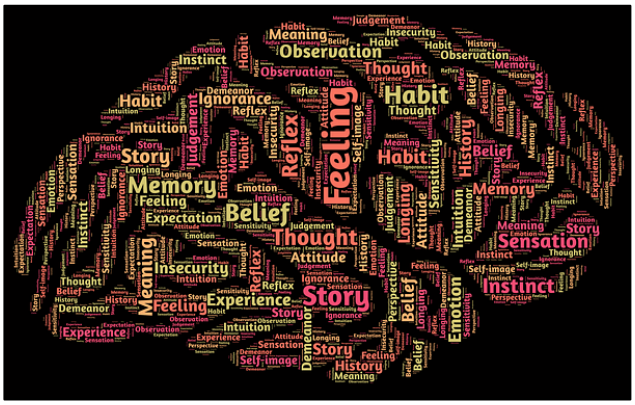
literacy, and effective teamwork. Coursework outside of Psychology will broaden skills and create a more well-rounded graduate.

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.

Grade Requirements
A GPA of 2.0 or above must be achieved for the major. A grade of C or above in PSYC 1101, PSYC 2101, PSYC 2103 or PSYC 2104, a statistics course, the two Natural Science courses and lab, and the Capstone course within two attempts* is required to progress in the major.

**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.*



Honors Program in Psychology

Admission Requirements
To enroll in the first course of the Honors Thesis Sequence, students must have:

- At least two semesters remaining before graduating
- Achieved at least Junior standing
- Completed PSYC 2103 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)
- 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
The Honors Program in Psychology involves a two-semester thesis project. This thesis project provides students with an opportunity to do research that is similar to what they may encounter in graduate school. Over the course of two semesters, students conduct a literature search around a topic, develop a research proposal, design a study and collect data, conduct data analyses, and write up the findings and their implications in a research thesis.

During the first semester (PSYC 4701), students conduct a literature review and design a study to form a research proposal. At the end of the first semester, there is a formal defense of the research proposal before a committee of faculty members and peers.

During the second semester (PSYC 4702), students conduct the research proposed in their research proposal-they collect and analyze their data, write up the findings and their implications, and combine this information with their research proposal to create their final research thesis. At the end of the second semester, there is a formal defense of the research thesis before a committee of faculty members and peers.

PSYC 4701 - Honors Thesis I (3)
PSYC 4702 - Honors Thesis II (3) (O,W)

Certification 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.

Minor Requirements
Introductory Course (3 credit hours)
PSYC 1101 - General Psychology (3)

Knowledge Base Area Courses (9 credit hours)
Select three courses from three different Knowledge Base Areas:

Learning and Cognition
PSYC 3111 - Psychology of Learning and Memory (3)
PSYC 3115 - Sensation and Perception (3)
PSYC 3116 - Human Cognitive Processes (3)
PSYC 3216 - Introduction to Cognitive Science (3)

Sociocultural Approaches
PSYC 2130 - Introduction to Social Psychology (3)
PSYC 3114 - Motivation (3)

Biological Basis of Behavior
PSYC 2110 - Introduction to Comparative Psychology (3)
PSYC 2113 - Introduction to Brain and Behavior (3)
PSYC 3113 - Physiological Psychology (3)

Developmental Changes
PSYC 2120 - Child Psychology (3)
PSYC 2121 - Adolescent Psychology (3)
PSYC 2124 - Psychology of Adult Development and Aging (3)

Elective Courses (6 credit hours)
Select two of the following:
PSYC 1000 - The Science and Practice of Psychology (3)
PSYC 2110 - Introduction to Comparative Psychology (3)
PSYC 2113 - Introduction to Brain and Behavior (3)
PSYC 2120 - Child Psychology (3)
PSYC 2121 - Adolescent Psychology (3)
PSYC 2124 - Psychology of Adult Development and Aging (3)
PSYC 2130 - Introduction to Social Psychology (3)
PSYC 2131 - Introduction to Forensic Psychology (3)
PSYC 2137 - Introduction to Positive Psychology (3)
PSYC 2150 - Psychology of Adjustment (3)
PSYC 2151 - Introduction to Abnormal Psychology (3)
PSYC 2155 - Psychological Approaches to Diversity (3)
PSYC 2160 - Introduction to Health Psychology (3)
PSYC 2165 - Introduction to Community Psychology (3)
PSYC 2171 - Introduction to Industrial/Organizational Psychology (3)
PSYC 3001 - Topics in Psychology (1 to 3)
PSYC 3002 - Topics in Psychological Research (3) (W)
PSYC 3111 - Psychology of Learning and Memory (3)
PSYC 3113 - Physiological Psychology (3)
PSYC 3114 - Motivation (3)
PSYC 3115 - Sensation and Perception (3)
PSYC 3116 - Human Cognitive Processes (3)
PSYC 3122 - Cognitive and Language Development (3)
PSYC 3123 - Social and Personality Development (3)
PSYC 3125 - Older Worker and Retirement (3)
PSYC 3135 - Psychology of Personality (3)
PSYC 3136 - Sexual Behavior (3)
PSYC 3140 - Basic Processes in Psychological Assessment (3)
PSYC 3152 - Child Psychopathology (3)
PSYC 3153 - Introduction to Clinical Psychology (3)
PSYC 3174 - Organizational Psychology (3)
PSYC 3216 - Introduction to Cognitive Science (3)
PSYC 3806 - Undergraduate Research Assistantship (1 to 4)
AFRS 3261 - Psychology of the Black Experience (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

Grade 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 intelligent systems, both human and artificial. It aims to understand the processes and representations that are the basis for intelligent actions. Research questions center on cognition, memory, problem solving, vision, and their computational embodiment. The interdisciplinary program 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 sciences and social sciences.



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 additions and deletions of courses may be made to correspond to current University offerings, students are encouraged to consult with the Director as they plan their schedules.

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)
ENGL 4263 - Linguistics and Language Learning (3)

Option 3 (Philosophy)
Select one of the following:
PHIL 3430 - Mind, Cognition, and Behavior (3)
PHIL 3510 - Advanced Logic (3)

Option 4 (Psychology)
Select one of the following:
PSYC 3111 - Psychology of Learning and Memory (3)
PSYC 3115 - Sensation and Perception (3)
PSYC 3116 - Human Cognitive Processes (3)

Unrestricted Elective Courses (6 credit hours minimum)
ENGL 4161 - Modern English Grammar (3)
ENGL 4167 - Mind and Language (3)
ENGL 4263 - Linguistics and Language Learning (3)
ITCS 3152 - Symbolic Programming (3)
ITCS 3153 - Introduction to Artificial Intelligence (3)
ITIS 3130 - Human Computer Interaction (3)
PHIL 3430 - Mind, Cognition, and Behavior (3)
PHIL 3510 - Advanced Logic (3)
PSYC 3111 - Psychology of Learning and Memory (3)
PSYC 3115 - Sensation and Perception (3)
PSYC 3116 - Human Cognitive Processes (3)
PSYC 3122 - Cognitive and Language Development (3)
PSYC 3313 - Neuropsychology (3)
PSYC 4316 - Cognitive Neuroscience (3)

Minor Total = 18 Credit Hours

Grade 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.

Early Entry: Ph.D. in Organizational 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
- 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

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
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree

Double-Counted Courses
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).

More Information
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 Religious Studies

religiousstudies.charlotte.edu

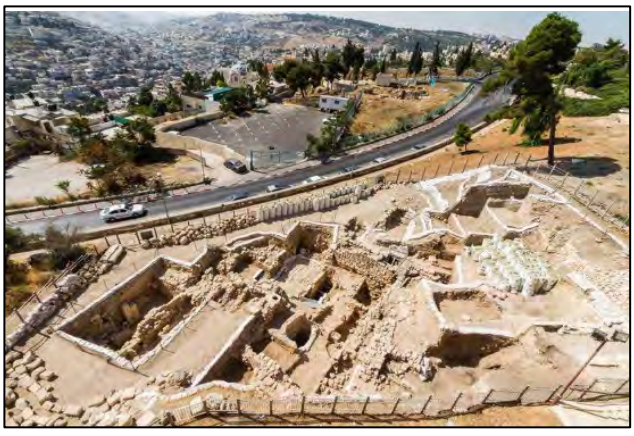
Undergraduate Programs

- 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.

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. 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.



Undergraduate Scholarships

The department gives two scholarship awards to outstanding undergraduate majors: the Lambda Chi Alpha Loy T. Witherspoon Scholarship and the Underwood Scholarship. They are awarded each year to recipients who have demonstrated by their academic performance 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, most students who major in Religious Studies 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 school or to careers in the non-profit sector, law, healthcare, public policy, education, and many other fields that value agile thinking and cultural competence.

Bachelor of Arts in Religious Studies

Admission Requirements

Freshmen

- *Minimum GPA:* 2.0; students with a GPA below 2.0 should consult with the Director of Undergraduate Studies
- *Declaration of Major:* Change of major form accepted year-round; appointment with Director of Undergraduate Studies 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

- *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

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.

Additionally, one LBST course that is also a General Education course taught by a Religious Studies instructor may also count toward the Major in Religious Studies. Included are: LBST 2101, LBST 2102, LBST 2211, LBST 2212, LBST 2213, LBST 2214, LBST 2215, and LBST 2301.

General Education Courses (37-41 credit hours)
For details on required courses, refer to the General Education Program.

Foreign Language Requirement (0-8 credit hours)
For details, refer to the College of Liberal Arts & Sciences Foreign Language Requirements at the beginning of this section.

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 1200 - World Religions (3)
RELS 2600 - Orientation to the Study of Religion (3) (O,W)
RELS 4600 - Senior Seminar (3) (O,W)

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) (W)
RELS 3090 - Readings in Primary Texts (3)
RELS 3104 - Prophecy and Prophetic Literature in Ancient Israel (3)
RELS 3107 - The Psalms and Wisdom Literature of Israel (3)
RELS 3111 - Women in Judaism (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 3209 - Religion and Literature (3)
RELS 3210 - Religion and Popular Culture (3)
RELS 3212 - Religion, Media, and Film (3) (W)
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 - Seminar in Religious Studies (3)
RELS 4010 - Major Figure in Religious Studies (3)
RELS 4020 - Major Text in Religious Studies (3)
RELS 4040 - Major Approach to the Study of Religion (3)
RELS 4107 - Early Judaism (3)
RELS 4108 - Medieval Judaism (3)
RELS 4109 - Modern Judaism (3)
RELS 4110 - Contemporary Jewish Thought (3)
RELS 4121 - Medieval and Reformation Christianity (3)
RELS 4125 - Witches, Saints, and Heretics (3)
RELS 4127 - Material Christianity (3)
RELS 4300 - Religion and the Body (3)
RELS 4400 - 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 2108 - Religion in American Culture (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) (W)
RELS 3104 - Prophecy and Prophetic Literature in Ancient Israel (3)
RELS 3107 - The Psalms and Wisdom Literature of Israel (3)
RELS 3111 - Women in Judaism (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 - Seminar in Religious Studies (3)
RELS 4010 - Major Figure in Religious Studies (3)
RELS 4020 - Major Text in Religious Studies (3)
RELS 4030 - Major Period in Religious History (3)
RELS 4107 - Early Judaism (3)
RELS 4108 - Medieval Judaism (3)
RELS 4109 - Modern Judaism (3)
RELS 4121 - Medieval and Reformation Christianity (3)
RELS 4340 - Theories of Sacrifice (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) (W)
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 3209 - Religion and Literature (3)
RELS 3210 - Religion and Popular Culture (3)
RELS 3212 - Religion, Media, and Film (3) (W)
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 - Seminar in Religious Studies (3)
RELS 4040 - Major Approach to the Study of Religion (3)
RELS 4110 - Contemporary Jewish Thought (3)
RELS 4125 - Witches, Saints, and Heretics (3)
RELS 4127 - Material Christianity (3)
RELS 4160 - Religion as Social (3)
RELS 4300 - Religion and the Body (3)
RELS 4340 - Theories of Sacrifice (3)
RELS 4400 - 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)

Degree Total = 120 Credit Hours

Grade 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.

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 LBST course that is also a General Education course taught by a Religious Studies instructor may also count toward the Major in Religious Studies. Included are: LBST 2101, LBST 2102, LBST 2211, LBST 2212, LBST 2213, LBST 2214, LBST 2215, and LBST 2301.

Minor Total = 15 Credit Hours

Grade 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 Committee.

Course Requirements

RELS 4790 - Honors Thesis Proposal and Candidacy (3)
RELS 4791 - Honors Thesis (3)

Certification 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

- 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

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
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree

Double-Counted Courses

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).

More Information

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/ 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 as a second lieutenant. 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 resulting in a Minor in Aerospace Studies (3 to 6 credit hours may be waived for prior service or time spent in JROTC). In addition to the 16 credit hours, cadets also complete eight semesters of leadership laboratory and attend two to three hours of physical training each week.

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.

Minor in Aerospace Studies

All cadets are required to complete 16 credit hours of Aerospace Studies coursework, plus lab courses, resulting in a Minor in Aerospace Studies.

Minor Requirements

General Military Courses (4 credit hours)

Freshman Fall semester
AERO 1101 - Foundations of the Air Force I (1)
AERO 1100 - Leadership Laboratory (0)

Freshman Spring semester
AERO 1102 - Foundations of the Air Force II (1)
AERO 1100 - Leadership Laboratory (0)

Sophomore Fall semester
AERO 2101 - Evolution of Aerospace Studies I (1)
AERO 1100 - Leadership Laboratory (0)

Sophomore Spring semester
AERO 2102 - Evolution of Aerospace Studies II (1)
AERO 1100 - Leadership Laboratory (0)

Professional Officer Courses (12 credit hours)
Junior Fall semester
AERO 3101 - Leadership Studies I (3) (0)
AERO 1100 - Leadership Laboratory (0)

Junior Spring semester
AERO 3102 - Leadership Studies II (3) (0)
AERO 1100 - Leadership Laboratory (0)

Senior Fall semester
AERO 4101 - National Security Studies and Preparation for Active Duty I (3) (0)
AERO 1100 - Leadership Laboratory (0)

Senior Spring semester
AERO 4102 - National Security Studies and Preparation for Active Duty II (3) (0)
AERO 1100 - Leadership Laboratory (0)

Total = 16 Credit Hours

Grade 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.

ROTC: Army / Department of Military Science

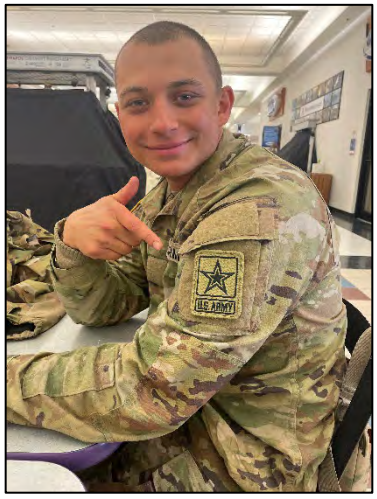
arotc.charlotte.edu

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.

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

Grade 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 $300, $350, $450, or $500 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*.

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

- *Minimum GPA:* 2.0
- *Declaration of Major:* Change of Major form accepted year-round; attendance at orientation/advising session required for major declaration. Declaration form will be distributed at orientation/advising session.
- *Transferable Credit Hours:* 24

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. At least three credit hours designated (W) must be in the major.

General Education Courses (37-41 credit hours)
For details on required courses, refer to the General Education Program.

Foreign Language Requirement (0-8 credit hours)
For details, refer to the College of Liberal Arts & Sciences Foreign Language Requirements at the beginning of this section.

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 3154 - Sociological Theory - Writing Intensive (3) (W)
SOCY 4153 - Contemporary Sociological Theory (3)
SOCY 4154 - Contemporary Sociological Theory - Writing Intensive (3) (W)

Sociological Research Core Courses (8 credit hours)
SOCY 3155 - Sociological Research Methods (4)
SOCY 3155L - Sociological Research Methods Lab (0)
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)

Related Courses (18 credit hours)
A minimum of 18 credit hours of related coursework must be completed for graduation. This can also be done with a minor or double major.

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) (O,W)

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade 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

- *Minimum GPA:* 2.0
- *Declaration of Major:* Change of Major form accepted year-round; attendance at orientation/advising session required for major declaration. Declaration form will be distributed at orientation/advising session.
- *Transferable Credit Hours:* 24

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. At least three credit hours designated (W) must be in the major.

General Education Courses (37-41 credit hours)
For details on required courses, refer to the General Education Program.

Foreign Language Requirement (0-8 credit hours)
For details, refer to the College of Liberal Arts & Sciences Foreign Language Requirements at the beginning of this section.

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 3154 - Sociological Theory - Writing Intensive (3) (W)
SOCY 4153 - Contemporary Sociological Theory (3)
SOCY 4154 - Contemporary Sociological Theory - Writing Intensive (3) (W)

Sociological Research Core Courses (8 credit hours)
SOCY 3155 - Sociological Research Methods (4)
SOCY 3155L - Sociological Research Methods Lab (0)
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) (W)
SOCY 4169 - Health Disparities (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)

Related Courses (18 credit hours)
A minimum of 18 credit hours of related coursework must be completed for graduation. This can be done by a minor or double major.

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) (O,W)

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade 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
- *Minimum GPA:* 2.0
- *Declaration of Major:* Change of Major form accepted year-round; attendance at orientation/advising session required for major declaration. Declaration form will be distributed at orientation/advising session.
- *Transferable Credit Hours:* 24

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.

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. At least three credit hours designated (W) must be in the major.

General Education Courses (37-41 credit hours)
For details on required courses, refer to the General Education Program.

Foreign Language Requirement (0-8 credit hours)
For details, refer to the College of Liberal Arts & Sciences Foreign Language Requirements at the beginning of this section.

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 3154 - Sociological Theory - Writing Intensive (3) (W)
SOCY 4153 - Contemporary Sociological Theory (3)
SOCY 4154 - Contemporary Sociological Theory - Writing Intensive (3) (W)

Sociological Research Core Courses (8 credit hours)
SOCY 3155 - Sociological Research Methods (4)
SOCY 3155L - Sociological Research Methods Lab (0)
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 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)

Related Courses (18 credit hours)
A minimum of 18 credit hours of related coursework must be completed for graduation. This can be done by a minor or double major. Students in the online-only B.A. program may fulfill this requirement with 18 credit hours of related coursework (i.e., without a minor or double major).

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) (O,W)

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade 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
- *Minimum GPA:* 2.0
- *Declaration of Major:* Change of Major form accepted year-round; attendance at orientation/advising session required for major declaration. Declaration form will be distributed at orientation/advising session.
- *Transferable Credit Hours:* 24

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. At least three credit hours designated (W) must be in the major.

General Education Courses (37-41 credit hours)
For details on required courses, refer to the General Education Program.

Foreign Language Requirement (0-8 credit hours)
For details, refer to the College of Liberal Arts & Sciences Foreign Language Requirements at the beginning of this section.

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 3154 - Sociological Theory - Writing Intensive (3) (W)
SOCY 4153 - Contemporary Sociological Theory (3)
SOCY 4154 - Contemporary Sociological Theory - Writing Intensive (3)

(W)

Sociological Research Core Courses (8 credit hours)
SOCY 3155 - Sociological Research Methods (4)
SOCY 3155L - Sociological Research Methods Lab (0)
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 4122 - Immigration Policy (3) (W)
SOCY 4125 - Urban Sociology (3)
SOCY 4135 - Sociology of Education (3)
SOCY 4168 - Sociology of Mental Health and Illness (3) (W)
SOCY 4172 - Sociology of Deviant Behavior (3)
or SOCY 4173 - Sociology of Deviant Behavior - Writing Intensive (3) (W)
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)

Related Courses (18 credit hours)
A minimum of 18 credit hours of related coursework must be completed for graduation. This can be done by a minor or double major.

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.

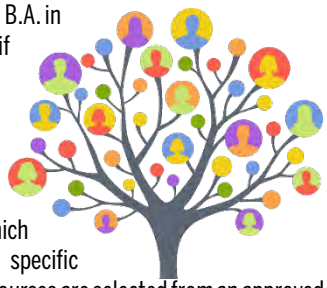
SOCY 4699 - Senior Seminar in Sociology (3) (O,W)

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade 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 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
- *Minimum GPA:* 2.0
- *Declaration of Major:* Change of Major form accepted year-round; attendance at orientation/advising session required for major declaration. Declaration form will be distributed at orientation/advising session.
- *Transferable Credit Hours:* 24

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. At least three credit hours designated (W) must be in the major.

General Education Courses (37-41 credit hours)
For details on required courses, refer to the General Education Program.

Foreign Language Requirement (0-8 credit hours)
For details, refer to the College of Liberal Arts & Sciences Foreign Language Requirements at the beginning of this section.

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 3154 - Sociological Theory - Writing Intensive (3) (W)

SOCY 4153 - Contemporary Sociological Theory (3)
SOCY 4154 - Contemporary Sociological Theory - Writing Intensive (3) (W)

Sociological Research Core Courses (8 credit hours)
SOCY 3155 - Sociological Research Methods (4)
SOCY 3155L - Sociological Research Methods Lab (0)
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 4150 - Older Individual and Society (3)
SOCY 4172 - Sociology of Deviant Behavior (3)
SOCY 4173 - Sociology of Deviant Behavior - Writing Intensive (3) (W)
SOCY 4263 - Group Processes (3) (O)
SOCY 4265 - Social Psychology of Law (3) (W)
Other SOCY courses with advisor approval

Restricted Elective Course (3 credit hours)
Select one of the following:
SOCY 2xxx-4xxx - Sociology Elective (3)

Related Courses (18 credit hours)
A minimum of 18 credit hours of related coursework must be completed for graduation. This can be done by a minor or double major.

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) (O,W)

Unrestricted Elective Courses
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade 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.

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

Grade 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
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:

- 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

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:

- Complete at least two Honors courses (6 credit hours) and earn a GPA of 3.5 or above for the courses
- Courses may be SOCY Honors courses or HONR courses that are open to departmental honors students
- Students may take SOCY 3798 (Preliminary Honors Research) to conduct preliminary research and writing
    - If students choose to take SOCY 3798, they 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
- Complete the Application to Candidacy process for graduating with honors, as directed by the Honors College

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

- 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.

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 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

Double-Counted Courses

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). Neither the Pro-Seminar in Applied Social Research nor Elective Courses may be counted toward both the B.A. and the M.A.

More Information

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 Writing, Rhetoric, and Digital Studies

writing.charlotte.edu

Undergraduate Programs

- B.A. in Writing, Rhetoric, and Digital Studies
- 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. The Department of Writing, Rhetoric, and Digital Studies teaches 21st century strategies for reading, analyzing, and composing in multiple media and contexts. By building their critical thinking, audience awareness, design and problem-solving abilities, students learn to communicate effectively across academic disciplines, workplaces, and in public spheres. By learning to evaluate the implications of print, digital, and social media compositions in both local and global contexts, students are prepared to navigate known, new, and emerging writing situations and media. Students have opportunities to engage in real-world research, tutor in the Writing Resource Center, and work with faculty on problems where communication matters.

.

Degrees and Programs

The Department of Writing, Rhetoric, and Digital Studies offers a minor and major, both of which serve students who want jobs that demand expertise and flexibility in digital communication; in moving texts from print to online and visual forms; in understanding data-driven analyses; in the design of multimodal as well as digital-born texts; in universal design that provides access; in global, rhetorical competency. These abilities consistently top the list of job sector demands across the board. With such a major, students have been hired by tech companies, website and social media developers, community service organizations, banking, customer service, historical societies, Human Resources, food and restaurant businesses, advertising, marketing museums and arts organizations, educational organizations: any job that requires communicating with targeted audiences through a variety of media are well-served by a writing major. The B.A. in Writing, Rhetoric, and Digital Studies also serves as qualification for graduate school degrees in interdisciplinary areas, computing, law, and others that require complex analysis, composing and informational literacy skills.

The department includes the First-Year Writing Program, the foundational course in Writing Studies and part of the University's General Education requirement. Students write extensively as they engage in critical reading and research to develop an extended inquiry project that integrates materials from varied sources; write in multiple genres for various purposes and audiences; revise, edit and reflect on their writing with the support of the teacher and peers; adopt digital technologies to network, compose, and/or critique and disseminate their work. Grades are derived primarily from portfolios comprised of work generated throughout the term.

Determined by high school performance and SAT/ACT scores, students are placed in either:

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)

The Writing Resource Center (WRC) provides one-on-one and group consultation on writing projects to students in all disciplines, whether a first-year or graduate-level student, as well as to faculty and staff. Students can bring in any writing task—assignments, personal statements, applications, research, digital compositions—for assistance in an active, collaborative learning environment. Consultations are held through face-to-face meetings, asynchronous e-tutoring, or synchronous web conferencing formats.

Staffed by trained undergraduate and graduate students from a variety of disciplines, the WRC offers not only writing assistance to others, but teaching experience and leadership opportunities to tutors as they develop their own writing abilities and interpersonal skills. All tutors participate in ongoing professional development in theory, research, and practice of writing and tutoring pedagogy.

The WRC staff also gives presentations and hosts workshops across the University on topics such as avoiding plagiarism, documenting sources, peer response, and revision strategies.

To learn more, visit wrc.charlotte.edu, and to schedule an appointment, visit uncc.mywconline.com.



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

- *Minimum GPA:* 2.0
- *Declaration of Major:* Change of Major forms accepted year-round; students must make an advising appointment during SOAR and when declaring the major. Students planning to change to or declare Writing, Rhetoric and Digital Studies as their major must have received a minimum grade of C in WRDS 1103 or WRDS 1104 or transfer credit equivalent.
- *Transferable Credit Hours:* 24

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 courses, refer to the General Education Program. Students should plan on taking a three-credit hour course designated as Writing Intensive (W) and a three-credit hour course designated as Oral Communication (O), or a three-credit hour course designated as both (W) and (O); these can be a major courses or elective courses.

Foreign Language Course (0-4 credit hours)

Students with a Major in Writing, Rhetoric, and Digital Studies 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. Intermediate American Sign Language is also accepted. Non-native speakers of English may complete the foreign language requirement by passing WRDS 1103, WRDS 1104, or the equivalent.

For details, refer to the College of Liberal Arts & Sciences Foreign Language Requirements at the beginning of this section.

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) (W)
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:

WRDS 2101 - Advanced Writing: Research and Critical Analysis (3) (W)
WRDS 3102 - The Effective Sentence: A Writing Course for All Majors (3) (W)
WRDS 3140 - Arguing With Images (3) (W)
WRDS 4011 - Topics in Writing Technologies (3)
WRDS 4210 - Contemporary Rhetorical Theory (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)

Community and Culture Courses (9 credit hours)

Select three of the following:

WRDS 4021 - Topics in Writing and Reading (3)
WRDS 4201 - Composing Across Borders: Transnational Digital Composition (3)
WRDS 4225 - Writing Research Methods (3) (O)
WRDS 4330 - Reading, Writing, and Archiving: Charlotte (3) (W)
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)

Major Elective Courses (9 credit hours)

Select three of the following:

WRDS 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)*
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)

Unrestricted Elective Courses

As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade 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 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

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) (W)
or WRDS 3102 - The Effective Sentence: A Writing Course for All Majors (3) (W)
WRDS 3211 - Online Writing: Ethics, Appropriation, and Social Media (3)
or WRDS 3215 - Information Literacy and Digital Composing (3) (W)
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:

WRDS 3102 - The Effective Sentence: A Writing Course for All Majors (3) (W)
WRDS 3140 - Arguing With Images (3) (W)
WRDS 3211 - Online Writing: Ethics, Appropriation, and Social Media (3)
WRDS 3215 - Information Literacy and Digital Composing (3) (W)
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) (W)
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)

Minor Total = 18 Credit Hours

Grade Requirements

An overall GPA of 2.0 in all coursework within the minor is required.

School of Data Science



School of Data Science

datascience.charlotte.edu

Undergraduate Programs

- B.S. in Data Science
- Early Entry: M.S. in Data Science and Business Analytics
- Early Entry: M.S. in Health Informatics and Analytics
- Early Entry: Graduate Certificate in Health Informatics and Analytics

UNC Charlotte's School of Data Science (SDS) is committed to growing exemplary talent through research and education. The School offers undergraduate and graduate degree programs and certificates that combine the fields of science, business, mathematics, social science, and sports. In strategic collaboration with industry and regional partners, the School is educating the next generation of data scientists, business analysts, and managers with the technical and critical thinking skills to model the world through data.

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

New Freshmen

Students who meet the University's admission requirements are admissible to the major.

New Transfers

Students who meet the University's admission requirements are admissible to the major.

Currently Enrolled Students

Students transferring from within UNC Charlotte must have a cumulative GPA of 2.0.

Degree Requirements

General Education Courses (37-41 credit hours)

For details on required courses, refer to the General Education Program.

Out of 37-41 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, while DTSC 3601 and DTSC 3602 satisfy the requirements for Writing in the Disciplines (W) and Oral Communication (O).

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) (O,W)
DTSC 3602 - Predictive Analytics and Their Implications B (3) (O,W)

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 (3)
ITCS 3160 - Database Design and Implementation (3)
ITCS 3162 - Introduction to Data Mining (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

As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade 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.

Early Entry: M.S. 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

- 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 mygradschool.charlotte.edu 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
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree

Double-Counted Courses

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).

More Information

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

- Minimum high school GPA of 3.75 (on a 4.0 scale)
- Minimum score of 1220 on SAT

Continued Enrollment 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.

Double-Counted Courses

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).

More Information

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

- 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 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. Instead, Early Entry 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.

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
- Undergraduate students are allowed to take only 12 hours of graduate credit before they have completed their baccalaureate degree

Double-Counted Courses

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).

More Information

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

- 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 mygradschool.charlotte.edu and provide supporting documents
- Applicants must meet with the Graduate Program Director prior to submitting an application
- 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
- Undergraduate students are allowed to take only 9 hours of graduate credit before they have completed their baccalaureate degree

Double-Counted Courses

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).

More Information

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 Professional Studies



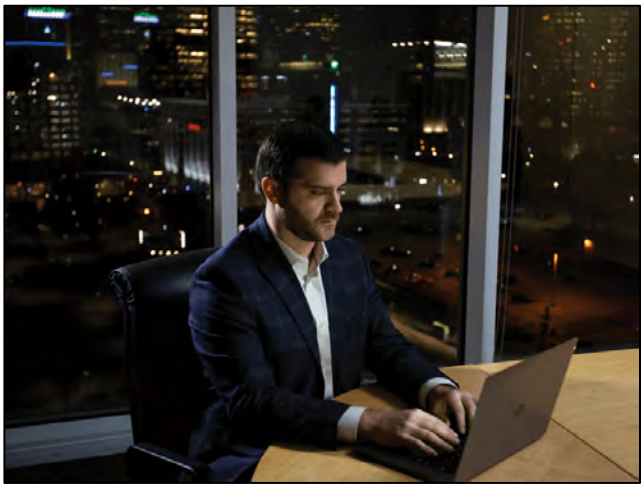
School of Professional Studies

professional.charlotte.edu

Undergraduate Programs

- **B.S. in Professional Studies**

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.



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, two concentrations, and culminates in a capstone project.

Admission Requirements

Transfers

The Professional Studies degree is available to transfer students and returning degree-seeking UNC Charlotte undergraduate students who have not enrolled in the last 12 months.

Prospective students interested in the Professional Studies degree should have at least 75 transferable credit hours. This requirement may be met with (1) transferable associate's degree and additional college coursework to meet 75 credit hours (2) 75 college credits that fulfill the UNC Charlotte general education requirements. Students who apply as transfer students without the approved Associate of Arts (AA), Associate of Science (AS) or Associate of Fine Arts (AFA) degree from a North Carolina community college that results in General Education exemption at UNC Charlotte will have their prior coursework evaluated upon application and may qualify for admission directly to the Professional Studies degree. Prospective and newly admitted students will consult with the Office of Adult Students and Evening Services (OASES) for advising. Students who have the 75 transferable credit hours but do not otherwise meet the criteria for admission directly to the Professional Studies major can be admitted to UNC Charlotte as an undecided major where they will work with an OASES advisor to secure admission to the Professional Studies program. All 49er Finish Program students are advised by OASES staff.

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.

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 (12 credit hours)
Sociology Courses (6 credit hours)
SOCY 2115 - Introduction to Organizations (3)
SOCY 4111 - Social Inequality (3)
or SOCY 4112 - Sociology of Work (3)
or SOCY 4115 - Organizational Sociology (3)

Professional Studies Courses (6 credit hours)
Professional Competency Courses (3 credit hours)
Select one of the following Professional Competency series. The three credit hours may be completed in a consecutive course series or selected from a different professional competency. Special topics (PROS 3000) may also be used to satisfy the professional competency requirement.

Project Management Series
PROS 3101 - Project Management: Foundations (1)
PROS 3102 - Project Management: Practitioner (1)
PROS 3103 - Project Management: Specialist (1)

Leadership Essentials Series
PROS 3201 - Leadership Essentials: Foundations (1)
PROS 3202 - Leadership Essentials: Practitioner (1)
PROS 3203 - Leadership Essentials: Specialist (1)

Human Resource Management Series
PROS 3301 - Human Resource Management: Foundations (1)
PROS 3302 - Human Resource Management: Practitioner (1)
PROS 3303 - Human Resource Management: Specialist (1)

Capstone Course (3 credit hours)
PROS 4600 - Professional Studies Capstone (1 to 3)

Area Courses or Optional Minor (18 credit hours)
Complete at least nine credit hours in two areas. Only three credit hours from the 1000-level may be counted toward the area. A minor of 18 credit hours may be substituted for the two areas. Appropriate courses in the area may be substituted with advisor approval.

Area Courses (18 credit hours)
Political Science and Public Administration Area (9 credit hours)
Select from the following:
POLS 1110 - American Politics (3)
POLS 2120 - Introduction to Public Policy (3)
POLS 3119 - State and Local Government (3)
POLS 3126 - Introduction to Public Administration (3)

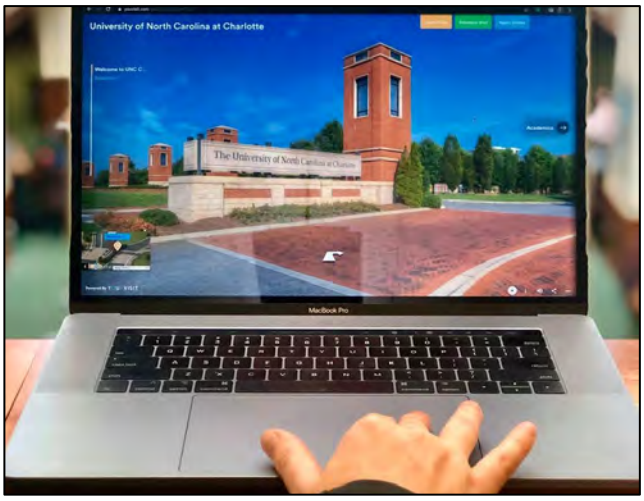
Information Technology Area (9 credit hours)
Select from the following:
ITSC 3xxx - Information Technology Elective (3)
ITSC 3xxx - Information Technology Elective (3)
ITSC 3xxx - Information Technology Elective (3)

Optional Minor (18 credit hours)
Select any 18 credit hour minor approved in consultation with advisor.

Unrestricted Elective Courses (0-30 credit hours)
As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Grade Requirements
A GPA of 2.0 in the major is required for graduation, as well as grades of C or above in all courses.



Online Academic Programs

Charlotte Online extends learning opportunities to professionals 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 healthcare, education, engineering, data and computing, and more.

Options for delivery include sending a UNC Charlotte faculty member to an off-campus location to teach a course in person, delivering courses completely online or via Hybrid delivery combining face-to-face and online delivery of instruction. Visit professional.charlotte.edu/online for more details.

Professional Credit

Professional credit is a term used for the University's non-academic-credit programs within the School of Professional Studies. These programs provide upskilling and reskilling opportunities in short-format options that are convenient for adults' busy schedules. Many of these programs also allow professionals to maintain their license in their profession. A professional-credit course can provide fresh material and insight as well as feedback and direction from industry leaders and instructors. Learners can earn continuing education credits in some courses and complete a professional certificate to add to one's resume or use toward certifications.

Employer Solutions

UNC Charlotte's Employer Solutions provides a wide range of world-class training and development solutions to meet the needs of businesses and organizations. As a leading provider in end-to-end learning solutions, Employer Solutions creates and customizes strategically-designed training programs for organizations that create skill-centered results and a lasting impact. Training and executive education opportunities are conveniently offered both onsite and online.

But Employer Solutions is so much more than just training and executive education. We strive to provide support for every aspect of an organization's talent development journey including group and 1:1 coaching, advising services, assessments, materials licensing, instructional design, and train-the-trainer. Visit professional.charlotte.edu/employer-solutions for more details.

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 several 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 pre-health professions and competitive national awards like the Rhodes, Truman, and Goldwater. An honors residence option in Levine Hall is also available for all students in the Honors College.

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, community engagement, and leadership opportunities. In addition to academic and professional development, 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, internships, research, and Education Abroad programs with the goal of broadening perspectives.



The UHP curriculum requires successful completion of HONR 1700, LBST 2301 (honors sections only), 12 credit hours of honors electives, and completion of an honors senior capstone project. An Advanced Entry option is available for students coming in with substantial early college or transfer credit. Students in UHP also may join one or more disciplinary honors programs 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 UHP requirements. During the senior year, UHP students complete a senior capstone project through UHP or through their disciplinary honors program.

Admission Requirements

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 may apply to UHP. 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 extra-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

HONR 1700 - University Honors Program Colloquium (1) *(with a grade of B or above)*
LBST 2301 - Critical Thinking and Communication (3) *(Honors sections only) (taken in the Sophomore year)*
HONR 3790 - University Honors Program Senior Seminar (1) *(with a grade of A)*
HONR 3791 - University Honors Program Senior Project (3) (W) *(with a grade of A)*

Elective Courses

Select 12 credit hours of HONR courses and/or Honors sections of LBST courses. At least 6 credit hours of honors elective courses should be at the 3000 level or higher. Students accepted as Advanced Entry may be exempted from 6 credit hours of LBST Honors coursework if they enter with 60+ credit hours, and may be exempted from 3 credit hours LBST Honors coursework if they enter with 30-59 credit hours.

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 through participation in UHP

Dual Honors

Students may graduate with dual honors by completing all departmental/college honors requirements, in addition to UHP requirements. In this case, the departmental thesis or capstone experience will satisfy the UHP project requirement, exempting the student from HONR 3790 and HONR 3791.

Students in dual honors programs may count one 3000 or 4000-level honors course toward their honors electives.

Study Abroad

Students studying abroad may request equivalency credits for one honors elective coursework from the Associate Director of Curriculum for the Honors College.

Residence

University Honors Program students are encouraged to live in the Honors College residence, Levine Hall, which provides an environment especially conducive to study and cooperative learning.

Student Association
Students in the University Honors Program are also part of the University Honors Program Student Association (UHPSA). The student-led organization coordinates social events, special discussions, student mentoring, and community service projects.

Merit Scholars Programs
The Albert Engineering Leadership Scholars Program, Crown Scholars Program, Freeman Scholars Program, Johnson Scholars Program, and Martin Scholars Program are housed in the Honors College; Albert and Crown Scholars are members of the University Honors Program; Freeman, Johnson, and Martin Scholars are members of any honors program.



Honors Programs in Academic Departments and Colleges
Many academic departments and colleges have honors programs enabling students to graduate with honors distinction in their academic discipline 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 academic 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
- Health Systems Management
- History
- Languages and Culture Studies
- Latin American Studies
- Mathematics and Statistics
- Nursing
- Philosophy
- Physics and Optical Science
- Political Science and Public Administration
- Psychological Science
- Religious Studies
- Social Work
- Sociology

Information on how to apply and graduate with honors from a college or a specific academic discipline can be found in this *Catalog* under each academic discipline with an honors program.



Preparation for Professional Schools

Pre-Health Professions and Pre-Medical School 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 non-science courses
- Pre-Health Professions Advising for academic and nonacademic requirements for professional school admission
- Assistance with the application process, including essay preparation and interviews
- Pre-Professional Faculty Evaluation Committee that prepares composite recommendation letters on the student's behalf
- Opportunities to participate in research
- Student clubs that offer guest speakers, community service, and peer support

Like most universities, UNC Charlotte does not offer a formal pre-health major, minor, or 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. 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.

All pre-health students are encouraged to consult with a Pre-Health Advisor to plan and review their course of study and other requirements necessary for admission into professional schools. Additional information may be found on the Honors College website at

honorscollege.charlotte.edu, including prerequisite course lists for various professions.

For health-related student organizations, visit studentorgs.charlotte.edu.

Prerequisite Core Courses

The basic minimum requirements for entrance to most health professions schools are as follows:

Biology (with labs) ..... 8 credit hours
General Chemistry (with labs) ..... 8 credit hours
Organic Chemistry (with labs) ..... 8 credit hours
Physics (with labs) ..... 8 credit hours
English ..... 6 credit hours

Note: These are the common minimum requirements; additional courses may be required at the discretion of the professional school. Most students will need additional coursework and healthcare-related extracurricular activities to be competitive for admission. Community service is also highly desirable.

Faculty Evaluation Committee for Pre-Health Professions

The UNC Charlotte Pre-Health Professions Faculty Evaluation Committee consists of faculty members from the University and serves as the main recommending body for UNC Charlotte students seeking entrance to medical, dental, veterinary, and optometry schools. Students must have competitive credentials to qualify for a committee letter. In order to obtain a recommendation from the committee, the student must schedule an appointment with the Pre-Health Professions Advising Office during the year in which applications are being submitted.

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.

Scholarships for Advanced Undergraduate and Graduate Study

The Honors College, working with the University Endorsement Committee, supports applications and nominations for many national and international scholarships for advanced undergraduate and graduate study. These scholarships, from a number of foundations and national organizations including Rhodes, Marshall, James Madison, Barry M. Goldwater, Jack Kent Cooke, Phi Kappa Phi, and National Science Foundation, require extensive application procedures and are awarded only to the most outstanding applicants. Students with exemplary academic records—combined with service and leadership—may be nominated for these highly selective graduate and, in some cases, advanced undergraduate awards. Most require an on-campus review and institutional endorsement of completed applications.

The Honors College also coordinates UNC Charlotte Alumni Association Scholarships, which preference students in honors programs, as well as scholarships for honors students: the Delbridge E. Narron Scholarship and Travel Award, and the Al Maisto Honors College Scholarship.

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 (**O** = Oral Communication; **W** = Writing Intensive), 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
AERO	Aerospace Studies
AFRS	Africana Studies
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
BINF	Bioinformatics and Genomics
BIOL	Biology

PREFIX	SUBJECT
BLAW	Business Law
BUSA	Business Analytics
BUSN	Business
CAPI	Capitalism Studies
CEGR	Civil and Environmental Engineering
CHEM	Chemistry
CHFD	Child and Family Development
CHNS	Chinese
CJUS	Criminal Justice and Criminology
CLAS	Liberal Arts & Sciences
CMET	Construction Management
COAA	Arts + Architecture
COMM	Communication Studies
CUYC	Urban Youth and Communities
DANC	Dance
DTSC	Data Science
ECGR	Electrical and Computer Engineering
ECON	Economics
EDUC	Education
ELDT	Education - Learning, Design, and Technology
ELED	Elementary Education
ELET	Electrical Engineering Technology
ENER	Energy and Electromechanical Systems
ENGL	English

PREFIX	SUBJECT
ENGR	Engineering
ESCI	Earth Sciences
ETCE	Civil/Environmental Engineering Tech
ETEE	Electrical Engineering Technology
ETFS	Fire and Safety Engineering Technology
ETGR	Engineering Technology
ETIN	Industrial Engineering Technology
ETME	Mechanical Engineering Technology
ETMF	Manufacturing Engineering Technology
ENTR	Entrepreneurship
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
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
INTL	International Studies
ITCS	Computer Science
ITIS	Software and Information Systems
ITLN	Italian
ITSC	Computing and Informatics
JAPN	Japanese
JOUR	Journalism
KNES	Kinesiology
LACS	Languages and Culture Studies
LATN	Latin
LBST	Liberal Studies/General Education
LEGL	Legal Studies
LTAM	Latin American Studies
MAED	Mathematics Education

PREFIX	SUBJECT
MATH	Mathematics
MDLG	Middle Grades Education
MDGK	Modern Greek
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
SWAH	Swahili
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. (2) 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 3900. 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, and Junior standing. 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. 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): College of Business major; and ACCT 2122 or ACCT 3323 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. Internal Auditing. (3) Prerequisite(s): Accounting major; and ACCT 3312 or ACCT 3324 with grade of C or above. Pre- or Corequisite(s): ACCT 3340. Internal auditing's role in the internal control framework is examined along the reporting, operations, and compliance dimensions. Evaluation of risk, controls, designing and executing tests, assessing audit evidence and communicating findings are covered. Special attention is given to information technology, data analytics, and comparisons to external auditing.

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; ACCT 3312 with grade of C or above; 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 major and ACCT 3311 with grade of C or above. An introduction to the Federal income tax system with emphasis on concepts and procedures applicable to all types of entities.

ACCT 4230. Advanced Income Tax. (3) Prerequisite(s): ACCT 4220 or equivalent course with a grade of C or above. An examination of advanced tax topics regarding corporations, partnerships, and individuals. In addition, estate and gift, fiduciary accounting, tax-exempt entities, and retirement plans will be examined at an introductory level.

Aerospace Studies (AERO)

AERO 1100. Leadership Laboratory. (0) 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. Foundations of the Air Force I. (1) Corequisite(s): AERO 1100. Survey course which focuses on the structure and missions of Air Force organizations, officership, and professionalism. Provides an overview of Air Force and defense topics and introduces communication skills training.

AERO 1102. Foundations of the Air Force II. (1) Prerequisite(s): AERO 1101. Corequisite(s): AERO 1100. Survey course which further explores

the structure and missions of Air Force organizations, officership, and professionalism. Students participate in comprehensive discussions on Air Force and defense topics while building upon learned communication skills.

AERO 2101. Evolution of Aerospace Studies I. (1) Prerequisite(s): AERO 1102. Corequisite(s): AERO 1100. The beginnings of manned flight and the development of aerospace power in the United States, including the employment of air power in WWI, WWII, Korea, Vietnam, and the Gulf War. The peaceful employment of U.S. air power in civic actions, space exploration support, and scientific missions are also discussed.

AERO 2102. Evolution of Aerospace Studies II. (1) Prerequisite(s): AERO 2101. Corequisite(s): AERO 1100. Further expounds on the origins of manned flight and the development of aerospace power in the United States to include the employment of air power in WWI, WWII, Korea, Vietnam, and the Gulf War. Discussions on peaceful employment of U.S. air power in civic actions, space exploration support, and scientific missions are facilitated.

AERO 3101. Leadership Studies I. (3) (0) Prerequisite(s): AERO 2102. Corequisite(s): AERO 1100. Study of the anatomy and importance of quality leadership and management, the role of discipline in leadership situations, and the variables that affect leadership. Case studies are used to examine Air Force leadership and management situations as a means of demonstrating and exercising practical application of the concepts. Students deal with actual problems and complete projects associated with planning and managing an Air Force training environment.

AERO 3102. Leadership Studies II. (3) (0) Prerequisite(s): AERO 3101. Corequisite(s): AERO 1100. Advanced studies on the anatomy and importance of quality leadership and management, the role of discipline in leadership situations, and the variables that affect leadership. Additional case studies are used to examine Air Force leadership and management situations as a means of demonstrating and exercising practical application of the concepts. Students analyze real-world problems and complete projects associated with planning and managing an Air Force training environment.

AERO 4101. National Security Studies and Preparation for Active Duty I. (3) (0) Prerequisite(s): AERO 3102. Corequisite(s): AERO 1100. Prepare cadets for their first active duty assignment as an Officer in the Air Force. Cadets learn about the role of a professional military leader in a democratic society and societal attitudes toward the armed forces. They also learn the requisites for maintaining adequate national defense structure, the impact of technological and international developments on strategic preparedness, military law, and the overall policy-making process.

AERO 4102. National Security Studies and Preparation for Active Duty II. (3) (0) Prerequisite(s): AERO 4101. Corequisite(s): AERO 1100. The capstone course for the Aerospace Studies curriculum that prepare cadets for their first active duty assignment as an Officer in the Air Force. Cadets learn about the role of a professional military leader in a democratic society and societal attitudes toward the armed forces. Discussions are held on the requisites for maintaining adequate national defense structure, the impact of technological and international developments on strategic preparedness, military law, and the overall policy-making process.

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 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): LACS 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): LACS 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) (W) 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 2208. Education and African Americans. (3) Examination of the problems and challenges of educating African Americans. Topics include: conceptual approaches to education; historical and contemporary overview of education for African Americans; the impact of race and discrimination; analysis of existing curricula; and suggested models for a multi-racial and multi-cultural education.

AFRS 2215. Black Families in the United States. (3) (W) 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): HIST 2211 and INTL 2101. 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 2225. West African Dance and Percussion. (3) Introduction to the practice and cultural theory of West African dance forms. Students are taken through the rhythmic experience of regional West Africa dances accompanied by live drumming. The cultural contexts of these dances as a window to understanding social norms and societies will be emphasized throughout.

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 3158. Gender and African American Literature. (3) Cross-listed Course(s): ENGL 3158. 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.

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 3190. Political Economy of the Caribbean. (3) Cross-listed Course(s): LTAM 3190. An examination of the manifestations of Caribbean economic problems and policies and Caribbean political development from the post-war period to the present.

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 3210. Black Families in the Diaspora. (3) Cross-listed Course(s): SOCY 3210 and LTAM 3110. This course is designed to acquaint students with historical and contemporary experiences of peoples of African descent in the Caribbean and Latin American countries with specific emphasis on family structure and family relationships. Includes discussion of theories, history, impact of globalization on family structure, roles of women and identity, socioeconomic status and mobility, slavery, colonialism, and capitalism. Designed to provide students with a better understanding of the comparative relationships and links between family structures and common life experiences among peoples of African descent in different parts of the world, with specific emphasis on the Caribbean and Latin American regions.

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 3220. The Caribbean from Slavery to Independence. (3) Cross-listed Course(s): LTAM 3220 and 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 is 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.

AFRS 3230. Poverty and Discrimination in African Diaspora in the Modern Era. (3) Socio-economic roots of poverty and discrimination in African America, the Caribbean, and Afro-Latin America; impact of anti-poverty and anti-discrimination laws and programs.

AFRS 3239. African American Music: History and Culture. (3) Cross-listed Course(s): HIST 3239 and 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 different musical genres -- including spirituals, blues, jazz, gospel, rhythm and blues, as well as hip hop -- reflected African Americans' social, political, and economic experiences.

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 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) (W) 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 20th century. The Brazilian experience will be approached comparatively, using the United States and other areas of the African Diaspora for context.

AFRS 3280. Blacks in Urban America. (3) Cross-listed Course(s): HIST 3280. African Americans have been part of the urban scene since the colonizing of the Americas. Examines the ways in which their presence in cities has both exemplified and contradicted the understanding of both urban development and race relations in America from colonial times to the present.

AFRS 3290. Research Methods. (3) (O) 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 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) (W) 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 3830. Philosophy and Race. (3) Cross-listed Course(s): PHIL 3830. 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 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 4000. 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 4050. Topics in Africana Studies. (3) 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 4101. Modern African Literature in English. (3) Prerequisite(s): Junior or Senior standing; and AFRS 1100 or AFRS 2206 for Africana Studies majors. Topics include: Traditional African and Western literary influences, the culture debate, post-independence satire, decolonization of African literature, apartheid, and women writers.

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 4630. Environmental and Public Health in Africa. (3) (O) 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) (W) 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 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 3000. Seminar in American Studies. (3) (O,W) An in-depth treatment of an American topic using an interdisciplinary and writing-intensive approach. *May be repeated for credit with change of topic and permission of advisor.*

AMST 3020. Seminar in American Studies. (3) (W) An in-depth treatment of an American topic using an interdisciplinary and writing-intensive approach. *May be repeated for credit with change of topic and permission of advisor.*

AMST 3050. Topics in American Studies. (3) 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 3210. Childhood in America. (3) Exploration of the changing nature of childhood in American society. Examines how social and economic developments have affected the child's position in the family, the workplace, and the school. Child-rearing philosophies and techniques from the colonial period to the present and the history of children's literature, toys, and entertainment will be studied.

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.

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 2111. Peoples of Africa. (3) Ethnic and linguistic diversity in Sub-Saharan Africa; ecology and culture; patterns of continuity and change in kinship, marriage, economy, social control, stratification, and religion.

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 2113. Cultures of Russia and East Europe. (3) Examination of former socialist countries of Russia and East Europe. Ideology and practice of socialism, ethnic relations, reunification, and cultural changes in gender roles, economy, religious practice, and popular culture.

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 2115. Culture and Society in the Middle East. (3) Patterns of subsistence, social and political organization in North Africa and the Middle East. Changes in family and community structures, migration, gender roles, and religious outlook since the colonial period.

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): INTL 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) (W) 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): INTL 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. Action, Justice, and Change: An Introduction to Engaged and Applied Anthropology. (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 1101. 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 1101 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): INTL 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 1101, 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 3116. Cultures and Conflicts. (3) Cross-listed Course(s): INTL 3116. 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.

ANTH 3117. Narratives and Conflicts. (3) Cross-listed Course(s): INTL 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 3122. Culture, Health, and Disease. (3) (W) 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 3124. Food, Nutrition, and Culture. (3) Prerequisite(s): ANTH 1101 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): INTL 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 1101. 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. Prerequisite(s): ANTH 1101. 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 3132. Aging and Culture. (3) (W) Examination of the processes of aging in various cultural contexts, with emphasis on the implications for understanding aging within American society. Application of anthropological theories and methods to the study of aging.

ANTH 3135. Origins of Globalization. (3) Cross-listed Course(s): INTL 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): INTL 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 1101 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 1101 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 3155. Ancient Latin America. (3) Cross-listed Course(s): LTAM 3255. 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.

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) Cross-listed Course(s): COMM 3150. 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 1101; 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 1101 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 1101. 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 1101 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 4110. American Ethnic Cultures. (3) Prerequisite(s): ANTH 1101 or permission of instructor. An anthropological and ethnohistorical survey of ethnicity, persistence and cultures of the ethnic groups of America. Topics include: theories of ethnicity, immigration, ethnic identity, reasons for immigration, acculturation experiences, and cultural characteristics of established and more recent ethnic groups.

ANTH 4120. Intercultural Communications. (3) Prerequisite(s): ANTH 1101 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 4140. Field Biology of the Primates. (3) Prerequisite(s): Junior or Senior standing; ANTH 2141 and ANTH 2142, or permission of instructor. The theory and methods utilized in the study of nonhuman primate behavior. This applied behavioral primatology course entails original research projects done at an appropriate zoological venue in North and South Carolina.

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 1101 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) (O,W) 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) (O,W) (SL) Prerequisite(s): ANTH 2171 or permission of instructor; ANTH 3601; and ANTH 4122, ANTH 4140, 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 4616. Culture and Conflict in the Amazon. (3) Cross-listed Course(s): LTAM 4116. 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 include: environmental degradation, human rights abuses, culture change, migration, and globalization.

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 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.*

Arabic (ARBC)

ARBC 1201. Elementary Arabic I. (3) Corequisite(s): ARBC 1201L. 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 1201L. Elementary Arabic I Lab. (1) Corequisite(s): ARBC 1201. Continuation of class activities practicing the fundamentals of the Arabic language, including speaking, listening comprehension, reading, and writing.

ARBC 1202. Elementary Arabic II. (3) Prerequisite(s): ARBC 1201 and ARBC 1201L, or equivalent. Corequisite(s): ARBC 1202L. Second course in a two-course sequence to develop competence in culture, speaking and writing, listening and reading comprehension in modern standard Arabic.

ARBC 1202L. Elementary Arabic II Lab. (1) Prerequisite(s): ARBC 1201 and ARBC 1201L. Corequisite(s): ARBC 1202. Continuation of class activities practicing the fundamentals of the Arabic language, including speaking, listening comprehension, reading, and writing.

ARBC 2201. Intermediate Arabic I. (3) Prerequisite(s): ARBC 1202 and ARBC 1202L, or permission of department. Corequisite(s): ARBC 2201L. Continued training in grammar. Intensive practice in reading, writing, and speaking.

ARBC 2201L. Intermediate Arabic I Lab. (1) Prerequisite(s): ARBC 1202 and ARBC 1202L. Corequisite(s): ARBC 2201. Continuation of class activities practicing the fundamentals of the Arabic language, including speaking, listening comprehension, reading, and writing.

ARBC 2202. Intermediate Arabic II. (3) Prerequisite(s): ARBC 2201 and ARBC 2201L, or permission of department. Corequisite(s): ARBC 2202L. Builds on skills acquired in the first semester intermediate level. Introduced advanced grammatical concepts.

ARBC 2202L. Intermediate Arabic II Lab. (1) Prerequisite(s): ARBC 2201 and ARBC 2201L, or permission of the department. Corequisite(s): ARBC 2202. Continuation of class activities practicing the fundamentals of the Arabic language, including speaking, listening comprehension, reading, and writing.

ARBC 3050. Topics in Arabic Language and Culture. (3) (W) 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 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) This course begins the

core architectural design sequence, which consists of six theme-based studios. The theme of this studio is "Form, Space, and Order." It provides a working knowledge of important studio skills, processes and methods, and develop creative and independent thinking through two- and three-dimensional design problems.

ARCH 1102. Architectural Design Studio II. (5) Prerequisite(s): ARCH 1101. This course continues the architectural design studio sequence by focusing on the theme of "Precedent Analysis." Students interrogate projects of historical and contemporary architecture that reify and expand upon formal investigations initiated in ARCH 1101, and apply those lessons to a design project. This studio expands the base of architectural skills, processes, methods, principles, and issues that affect the built environment we inhabit.

ARCH 1602. Writing Reading Thinking Architecture. (3) (W) Prerequisite(s): ARCH 1101. Corequisite(s): ARCH 1102. Introduces undergraduate architecture students to the value and importance of writing in the discipline. The primary theme of the course is the integral relationship between three types of writing especially important to a career in architecture: description, analysis, and criticism. The course also explores the practice of free-writing as a type of design process. It focuses on written communication, but also addresses oral communication, which is another foundational practice in our discipline, and considers how writing and speaking are alike and unlike each other. Additionally, graphic communication is integrated as a way to develop a discipline-specific understanding of communication more broadly.

ARCH 2101. Architectural Design Studio III. (5) (0) Prerequisite(s): ARCH 1102 and ARCH 1602. Corequisite(s): ARCH 4301. This course continues the architecture design studio sequence by focusing on the theme of "Site." Students interrogate matters of physical and cultural context, site-specific material strategies, and environmental impact/responsiveness through both analysis and design projects. This studio also initiates the instruction of computational design skills and methods.

ARCH 2102. Architectural Design Studio IV. (5) Prerequisite(s): ARCH 2101. Corequisite(s): ARCH 4302. This course continues the architecture design studio sequence by focusing on the theme of "Program." Students interrogate matters of spatial organization, circulation, and planned/unplanned uses of space through both analysis and design projects. Instruction includes further development of computational design skills and methods.

ARCH 3101. Architectural Design Studio V. (5) Prerequisite(s): ARCH 2102. This course continues the architecture design studio sequence by focusing on the theme of "Material and Structural Assemblies." Students interrogate matters of tectonics, structural systems and material strategies. Physical and computational modeling are emphasized as complementary modes of inquiry.

ARCH 3102. Architectural Design Studio VI. (5) Prerequisite(s): ARCH 3101. The final studio in the Core Program focuses on the theme of "Systems Integration." Students interrogate matters of mechanical systems and building envelopes, as well as information systems and new media technologies, foregrounding their impact on sustainability and spatial organization and occupation.

ARCH 4050. Architecture Topics. (1 to 4) 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 4101. Architectural Design Studio VII: Advanced Building Design. (5) Prerequisite(s): ARCH 3102. This studio conducts an integrated building design project that synthesizes all six themes and many of the graphic methods of the core program. Students interrogate a complex program on a complex urban site through the use of advanced computation methods, including Building Information Modeling.

ARCH 4102. Architectural Design Studio VIII: Topical. (5) 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 4204. History/Theory Topics. (3) (W) 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 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) Cross-listed Course(s): ARCH 4204, ARCH 5204, and ARCH 5205. 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) 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 4604. Computational Methods. (3) Prerequisite(s): ARCH 2102 or permission of instructor. Advances computation in architecture by understanding the strengths and weaknesses of various kinds of computing and their role in design. Course content included: advanced 3D modeling, basic parametrics, basic scripting, and the importance of digital inquiry. Also introduces computational concepts, their history, and how they relate to design and architecture.

ARCH 4605. Computational Practice. (3) Prerequisite(s): ARCH 4604 or permission of instructor. Capstone course for digital and computational studies in the 5th-Year program. The objectives of the course are to provide the use of advanced digital tools, digital fabrication, advanced visualization techniques, scripting, as well as parametric and building information modeling tools.

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 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 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. Special topic in art. *May be repeated for credit with change of topic.*

ARTA 3101. Art Writing. (3) (W) Prerequisite(s): Art major; and WRDS 1103 or WRDS 1104 with a grade of C or above. Intensive writing experience in the forms of writing commonly employed in the visual arts: criticism, journalism, historical research, personal essay.

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 apply to any concentration in the B.F.A. in Art. A passing grade reflects the successful completion of course requirements. Those denied may retake the course once. If denied a second time, 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. May be repeated for credit one time.*

ARTA 3400. Internship in the Arts. (1 to 3) Prerequisite(s): Art major; permission of sponsor instructor and department. Non-salaried 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 3801. Visual Arts Workshop. (1 to 6) Prerequisite(s): Art major; permission of instructor and department. Contracted and pre-approved arrangements for student to receive credit for visual arts workshops conducted outside the University's course offerings. *May be repeated for credit.*

ARTA 4600. Senior Seminar. (3) (O,W) 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:

- Cross Disciplinary: permission of advisor
- Digital: ARTM 3103 or ARTM 3105
- 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)

Pre- or Corequisite(s): ARTT 4291 (Photography majors only). 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 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 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 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 major. Introduction to digital technologies, content production in current software, and best digital practices for emerging artists. Six contact hours.

ARTB 1206. Conceptual Practices. (3) Prerequisite(s): Art major. Exposes students to the breadth of makers, means, and modes of expression in the contemporary art world during in-class sessions. In-class discussions, presentations, guest speakers, written assignments, and/or field trips support independent out-of-class studio projects. With these projects, students immediately assume full responsibility for acquiring the means, space and material resources to manifest a creative voice. Experiences are designed to promote the generation of ideas and their integration into objects, sound, digital media, and/or performance. Four contact hours.

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 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) 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 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 20 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) (W) 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. Transcultural Identities in Art Education. (3) Prerequisite(s): Art major with Art Education concentration and admission to Teacher Education. Examines social and cultural theory important to informing effective art teaching. Guidance and practice in research, identification, and critical examination of transcultural moments in visual culture/art history for incorporation into all aspects of art teaching. Uses electronic media to facilitate cross-cultural interactions. Three contact hours.

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) (O,W) 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 Social and Emotional Learning in Art Education. (3) Prerequisite(s): Art major with Art Education concentration, and admission to Teacher Education. Based on research in creativity, social-emotional learning, affective neuroscience, and mindfulness, this course strengthens the holistic development of artists/teachers with a focus on professional sustainability. Evidence-based tools and practices are presented that enhance well-being and creativity while facilitating social-emotional aspects of learning through the arts.

ARTE 4466. Art Education Year-Long Internship. (1) Prerequisite(s): Art Education major; and 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 20 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 Crequisite(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 2180. Design Thinking. (3) Prerequisite(s): Graphic Design or Art major, ARTB 1201, and ARTB 1203. 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. Four contact hours.

ARTG 2181. Graphic Design I. (3) Prerequisite(s): Graphic Design or Art major, ARTB 1201, and ARTB 1203. 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, ARTB 1203, and Graphic Design or Art 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, ARTG 3185, 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. Six contact hours.

ARTG 4982. Graphic Design Projects. (3) Prerequisite(s): Graphic Design major, ARTG 3185, ARTG 4180, ARTG 4182, and ARTM 3205. 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 and Art History 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) (W) 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 3100. Field Study in Visual Art. (3) Short, intensive summer course on contemporary art issues combining a seminar (reading, research, discussion, writing, and oral presentation) with a week-long group field trip to major museums, alternative spaces, galleries, and artists' studios in New York City.

ARTH 3114. Art History Methods. (3) Prerequisite(s): Art History major; ARTH 1211, ARTH 1212, ARTH 2110, and ARTH 2614; 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, ARTH 2110, and ARTH 2614; 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 3349. Gothic Art. (3) Prerequisite(s): ARTH 1211. Survey of the art and architecture from the 11th to the 15th centuries in France, Germany, Bohemia, Italy, and the Low Countries.

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 4212. Contemporary Art Theory and Criticism. (3) Prerequisite(s): ARTH 3114. Major ideas and writings which discuss and interpret the visual arts of the contemporary era; readings in theory and criticism from the postmodern and current periods.

ARTH 4601. Problems in Pre-Columbian Art History. (3) (O,W) Prerequisite(s): Art History major; and ARTH 3114, ARTH 3318, or permission of instructor. A seminar designed around a problem in Pre-Columbian Art History, requiring reading, discussion, reports, and a major paper. *May be repeated for credit with change of topic.*

ARTH 4602. Problems in African Art History. (3) (O,W) Prerequisite(s): Art History Major, ARTH 3114; and ARTH 2121, ARTH 3328, or ARTH 3395; or permission of instructor. A seminar designed around a problem in African Art History, requiring reading, discussion, reports, and a major paper. *May be repeated for credit with change of topic.*

ARTH 4603. Problems in Ancient Art History. (3) (O,W) Prerequisite(s): Art History major; and ARTH 3114; ARTH 3320, ARTH 3322, ARTH 3323, or ARTH 3324; or permission of instructor. A seminar designed around a problem in Ancient Art History, requiring reading, discussion, reports, and a major paper. *May be repeated for credit with change of topic.*

ARTH 4605. Problems in Renaissance Art History. (3) (O,W) Prerequisite(s): Art History major; ARTH 3114; and ARTH 3350, ARTH 3351, or ARTH 3360; or permission of instructor. A seminar designed around a problem in Renaissance Art History, requiring reading, discussion, reports, and a major paper. *May be repeated for credit with change of topic.*

ARTH 4609. Problems in Modern and Contemporary Art History. (3) (O,W) Prerequisite(s): Art History major, ARTH 3114, and ARTH 3393; or permission of instructor. A seminar designed around a problem in Art History since 1900, 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. Survey of the history of illustration and problems in a wide range of media with emphasis on the significant precedents and individuals responsible for shaping the field. Studio projects, demonstrations, and critiques contribute to visual literacy. Six contact hours.

ARTL 3086. Topics in Illustration. (3) Prerequisite(s): Art or Graphic Design major, and ARTB 1203. Pre- or Corequisite(s): ARTB 1206 or ARTG 2180. Special topics in illustration. *May be repeated for credit with change of topic.*

ARTL 3186. Illustration: Media/Method. (3) Prerequisite(s): Art or Graphic Design major, and ARTL 2186. Tools and techniques of illustration including preliminary sketching, photography, library, and Internet research.

ARTL 3187. Children's Book Illustration. (3) Prerequisite(s): Art major, ARTA 3201, and ARTL 2186; or Graphic Design major. Examination of age-specific reading level groupings, demographics, and publishing informs a study of writing, layout, storyboard, dummy, and finished artwork for children's books and other related merchandise. Six contact

hours.

ARTL 3188. The Figure in Illustration. (3) Prerequisite(s): Art major, ARTA 3201, and ARTL 2186; or Graphic Design major. Examination of memory and research techniques to draw the figure in any position or environment. Emphasis on anatomy, form, composition, and costume. Six contact hours.

ARTL 3286. Illustration Sequence/Story. (3) Pre- or Corequisite(s): Art major, ARTA 3201, and ARTL 2186; or Graphic Design major. Relationship between words and pictures. Development of a narrative pictorial approach in problems for a wide variety of markets. Single and sequential images as visual solutions. Six contact hours.

ARTL 4981. Illustration Projects. (3) Prerequisite(s): Art or Graphic Design major, and ARTA 3201. Pre- or Corequisite(s): ARTL 3186 and ARTL 3286. 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) Pre- or Corequisite(s): Art or Graphic Design major; ARTB 1201; ARTB 1202; ARTB 1203; ARTB 1204; 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. Game Design and Graphics. (3) Prerequisite(s): Art or Graphic Design major, or permission of instructor; and ARTM 2105 with grade of C or above. Graphics, animation, and sound for digital game design. Topics include: game design, graphics and animation for digital games, team-based production, and ethics and conceptual concerns in digital media. 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; ARTA 3201 and ARTM 2105 with grade of C or above, or Graphic Design major. Emphasis 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 3205. Interactive Art and Design. (3) Prerequisite(s): Art major, ARTA 3201, and ARTM 2105; or Graphic Design major. 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 3103, ARTM 3105, or ARTM 3205; 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): 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 Coerequisite(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) 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 - Darkroom. (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 aesthetics of black and white photography. Introduction to photographic theory, operation of cameras, and basic darkroom techniques. Principles of photography as a means of personal expression. Six contact hours.

ARTT 3091. Topics in Photography. (3) Prerequisite(s): 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. (3) Prerequisite(s): Art or Graphic Design major; and ARTG 3183 or ARTT 2191. Exploration of the technical and aesthetic parameters unique to digital photography. Forms of input and output are discussed along with advanced applications of digital photography software. 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.

ARTT 3193. Alternative and Historic Photographic Media. (3) Prerequisite(s): ARTT 2191 or ARTT 3190; and Art or Graphic Design major. Exploration of alternative and historic photographic processes and aesthetics in combination with digital technologies used as a means of creative 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 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. Experimental Photographic Media. (3) Prerequisite(s): Art major, ARTT 2191, and ARTA 3201; or Graphic Design major. Exploration of contemporary photographic mixed media techniques, including the combination of darkroom and digital methods. Experimental studies in the personal and imaginative use of photographic materials. Six contact hours. *May be repeated for credit.*

ARTT 4291. Introduction to Creative Research in Photography. (3) Prerequisite(s): Art major, ARTA 3201, and ARTT 3191; or Graphic Design major. Pre- or Corequisite(s): ARTT 3190. Advanced study of photography for individual creative expression with an emphasis on contemporary photographic topics, methodologies, and professional practices.

ARTT 4409. Internship in Photography. (3) Prerequisite(s): Art or Graphic Design major, ARTT 3190, 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): Art or Graphic Design major. Pre- or Corequisite(s): ARTB 1201; ARTB 1202; ARTB 1203; ARTB 1204; 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) 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; ARTZ 2306; and ARTC 2171, ARTC 2172, ARTF 2151, or ARTZ 2141. 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 3211. Bioinformatics Databases and Data Mining Technologies. (3) Prerequisite(s): BINF 1101. Lecture course that incorporates extensive computational exercises, some of which will be done in class. Lecture topics are intended to introduce students to core concepts in both database management system theory and implementation and in data modeling for genomics data types. Exercises are intended to give students practical experience in setting up and populating a database, using public data repositories and using standard tools for retrieving data (SQL), and further, using existing tools for data mining and visualization of genomics data types. Emphasis placed on standards and emerging practices.

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 4101. Computational Systems Biology. (3) Prerequisite(s): BINF 3101. The process of reconstructing complex biological networks. Reconstruction of metabolic networks, regulatory networks and signaling networks using bottom-up and top-down approaches will be addressed using collections of historical data as well as departmentally generated data. The principles underlying high-throughput experimental technologies and examples given on how this data is used for network reconstruction, consistency checking, and validation will be covered throughout the semester.

BINF 4111. Structural Bioinformatics. (3) Prerequisite(s): BINF 3101. Includes the physical forces that shape biological molecules, assemblies and cells; overview of protein and nucleic acid structure; experimental methods of structure determination; data formats and software for structure visualization; computational methods to evaluate structure; structural classification; structure alignment; computational algorithms for structure prediction; and structural analysis of disease-causing mutations.

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. One laboratory period of three hours a week. *Not accepted toward the Biology major.*

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 2130. General Biology II. (3) Prerequisite(s): BIOL 2120 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 2140L. General Biology Laboratory. (2) (O, W) 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.*

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. 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) Pre- or Corequisite(s): BIOL 2273. One laboratory period of three hours a week. *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. Continuation of BIOL 2273. *Not accepted toward the Biology major. May not be attempted more than twice.*

BIOL 2274L. Human Anatomy and Physiology II Laboratory. (1) Pre- or Corequisite(s): BIOL 2274. One laboratory period of three hours a week. *Not 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) (W) 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.

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) (W) 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.

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) (W) 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.

BIOL 3202. Horticulture. (3) (W) 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) (W) 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) (W) 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) (W) 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.

BIOL 3274. Scientific Writing. (3) (W) 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 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) (W) 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) (W) 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 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) (W) 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) (W) 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) (W) 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.

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) (W) 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 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, BIOL 3144, 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) (O,W) 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) (O,W) 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) (O,W) 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 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 3770. Business Honors Thesis Topics. (1) Prerequisite(s): Permission of the Assistant Director of the Business Honors Program. Exploration of current business research topics through presentations by business faculty. *Graded on a Pass/No Credit Basis.*

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 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.

CAPI 3050. Topics in Capitalism Studies. (3) An interdisciplinary perspective on a specific topic, related to the field of Capitalism Studies. *May be repeated for credit with change in topic.*

CAPI 3800. Independent Study. (3) Students pursue individual investigations, supervised by the instructor, of subjects directly related to Capitalism Studies.

CAPI 4050. Topics in Capitalism Studies. (3) 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 2101. Civil Engineering Drawing. (2) Prerequisite(s): Engineering major or minor. Introduction to engineering drawing in the environmental, geotechnical, transportation, and structural sub-disciplines of civil engineering, including sketching, principles of Mechanical drawing, and computer aided drawing (CAD). CAD utilizes the MOSAIC computing environment. One hour of lecture and three hours of laboratory per week.

CEGR 2102. Engineering Economic Analysis. (3) Prerequisite(s): ENGR 1201 with grade of C or above, and Civil 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 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) (0) Prerequisite(s): CEGR 2102 with grade of C or above, and Civil 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. One hour of lecture and 3 hours of laboratory per week.

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 3255, and CEGR 3278 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; CEE major; and Junior or Senior standing. 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; Junior or Senior standing; and Civil 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) (W) 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) (W) Prerequisite(s): CHEM 1251 and CHEM 1251L with grades of C or above, and Civil 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, CEGR 2103, and MEGR 2141, 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 3212. Computer Applications in Civil Engineering. (3) Prerequisite(s): Three of the following: CEGR 3122, CEGR 3141, CEGR 3143, CEGR 3161, or CEGR 3278 with grades of C or above; and Engineering major or minor. Application of computers and numerical methods to various types of civil engineering problems. Examinations in depth of selected civil engineering problems.

CEGR 3221. Structural Steel Design I. (3) Prerequisite(s): CEGR 3122 and CEGR 3255 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 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 3232. Urban Engineering. (3) Prerequisite(s): Permission of CEE Advisor and Engineering major or minor. An examination of those societal problems of metropolitan regions most amenable to engineering solutions. Current urban literature will be reviewed in seminar, and selected topics amenable to engineering analysis will be studied. Written reports will be presented.

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) (W) 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 3258. Geotechnical Laboratory. (2) (W) 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.

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 3282. Professional Development. (1) Prerequisite(s): graduation date before next Fall semester; and Engineering major or minor. A series of one-hour lectures by faculty and invited speakers on basic concepts of professionalism and the nature and purpose of engineering ethics. *Graded on a Pass/No Credit basis.*

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 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 4123. Bridge Design. (3) Prerequisite(s): CEGR 3122, CEGR 3221, and CEGR 3225 with grades of B or above; and Engineering major or minor. Review of bridge design codes and loadings; superstructure and substructure design of short and intermediate span bridges constructed of steel and concrete; wind and seismic design considerations.

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 4141. Process Engineering. (3) Prerequisite(s): CEGR 3141 with grade of C or above, or permission of CEE Advisor; and Engineering major or minor. Applications of material and energy balance principles to the study of chemical, biological, and environmental engineering processes. Overview of applied biotechnology, engineering thermodynamics, and kinetics.

CEGR 4142. Water Treatment Engineering. (3) Prerequisite(s): CEGR 3141 with grade of C or above, or permission of CEE Advisor; and Engineering major or minor. Analysis and design of water and wastewater treatment processes including physical, chemical and biological treatment. Computer-aided design of treatment systems.

CEGR 4143. Solid Waste Management. (3) Prerequisite(s): CEGR 3141 with grade of C or above, or permission of CEE Advisor; and Engineering major or minor. Solid waste management, sources, generation rates,

processing and handling, disposal, recycling, landfill closures, and remedial actions for abandoned waste sites.

CEGR 4144. Engineering Hydrology. (3) Prerequisite(s): CEGR 3143 with grade of C or above, and Engineering major or minor. 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 Engineering major or minor. 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 Engineering major or minor. 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 4148. Open Channel Hydraulics. (3) Prerequisite(s): CEGR 3143 with grade of C or above; and Engineering major or minor. A rigorous examination of the concepts of energy, momentum, and friction as they relate to free-surface flow in engineered and natural channels. Topics include: uniform flow; normal, alternate, and conjugate depths; gradually and rapidly varied flows; flood routing; analysis and design of hydraulic structures; and computer modeling of channel hydraulics using HEC-RAS.

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 4183. Traffic Engineering Studies. (3) Prerequisite(s): STAT 3128 and Engineering major or minor. Introduction to the traffic engineering studies most used by traffic engineers, including data collection techniques, statistical analysis procedures, report writing and presentation. One hour of lecture and three hours of laboratory per week.

CEGR 4184. Highway Safety. (3) Prerequisite(s): CEGR 3161 with grade of C or above, STAT 3128, and Engineering major or minor. Engineering responses at the state and local levels to the problem of highway safety. Extent of the highway safety problem, elements of traffic accidents, common accident countermeasures, collection and analysis of accident data, evaluation of safety-related projects and programs, and litigation issues.

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 4235. Industrial Pollution Control. (3) Prerequisite(s): Permission of department and Engineering major or minor. Source and characterization of industrial wastewaters, fundamentals of chemical and physical treatment processes, biological treatment technologies, waste minimization and reduction technologies, and sludge handling and toxicity reduction. Implementation of field or laboratory treatability study.

CEGR 4241. Chemical Processes in Water and Wastewater Treatment. (3) Prerequisite(s): CHEM 1251 and CEGR 3141 with grades of C or above, or permission of CEE Advisor; and Engineering major or minor. Chemical principles involved in the treatment of water and wastewaters; principles of chemical equilibrium relevant to natural water systems; the nature and effect of chemical interactions of domestic and industrial waste effluents on natural water systems.

CEGR 4242. Wastewater Treatment Design. (3) Prerequisite(s): CEGR 3141 with grade of C or above, or permission of department; and Engineering major or minor. 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 Engineering major or minor. 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 3258, CEGR 3278 with grade of C or above, permission of department, 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 3258, CEGR 3278 with grade of C or above, permission of department; 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 4273. Engineering Ground Improvement. (3) Prerequisite(s): CEGR 3258, CEGR 3278 with grade of C or above, and Engineering major or minor. Methods of soil and site improvement; design techniques for dewatering systems: ground improvement techniques including: compaction, preloading, vertical drains, admixtures and chemical stabilization of soils, grouting, reinforced earth, in-situ densification, stone columns, slurry trenches, geopiers, and relevant uses of geotextiles. Design considerations and construction techniques for each system are described.

CEGR 4276. Natural Hazards. (3) Prerequisite(s): CEGR 3122, CEGR 3141, CEGR 3143, CEGR 3161, CEGR 3225, and CEGR 3278 with grades of C or above; and Engineering major or minor. Natural hazards dealing with the earth natural processes such as earthquakes, volcanoes, flooding, landslides, and severe weather events are covered. The basic understanding of the different natural hazard processes and mechanisms are presented within the context of the earth's internal and external energies. The course also provides students with a solid understanding of risk as it relates to the potential consequences and

impacts to human population and the built environment. This initial part of the course forms the foundation for the second part of the course which includes presentation of the basic principles of risk management of natural hazards within the context of civil and environmental engineering. The final portion of the course covers risk mitigation strategies which are discussed within the challenging context that includes a rapid ongoing population growth and the constantly changing land use which affects societal levels of risk acceptance from natural hazards.

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.

CEGR 4892. Individualized Study and Projects. (1 to 6) Prerequisite(s): Permission of CEE Advisor and Engineering major or minor. Individual investigation and exposition of results. *May be repeated for credit.*

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.

CHEM 1112. Chemistry in Today's Society. (3) Prerequisite(s): CHEM 1111. Continuation of CHEM 1111. Does not qualify as a prerequisite for any other chemistry course. Three lecture hours and one Problem Session hour per week. Students who have received credit for CHEM 1252 may not enroll in CHEM 1112 or CHEM 1112L.

CHEM 1112L. Laboratory in Chemistry. (1) Prerequisite(s): CHEM 1111 and CHEM 1111L. Pre- or Corequisite(s): CHEM 1112. Continuation of CHEM 1111L. One three-hour laboratory per week. Students who have received credit for CHEM 1252L may not enroll in CHEM 1112L.

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.

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.

CHEM 1251. General Chemistry I. (3) Prerequisite(s): MATH 1100 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.

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. Students who have received credit for CHEM 1252 may not enroll in CHEM 1112 or CHEM 1112L.

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. Students who have received credit for CHEM 1252L may not enroll in CHEM 1112L.

CHEM 1253L. Introduction to Modern Laboratory Methods. (1) Pre- or Corequisite(s): CHEM 1252. For students planning to take additional chemistry courses; can be substituted for the CHEM 1252L requirement for all degrees in Chemistry. Open-ended studies on topics compatible with CHEM 1252 lecture materials. A quasi-research approach is used, involving modern instrumentation extensively. The background needed to utilize microcomputers in data acquisition and data reduction is presented. One three-hour laboratory 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.

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.

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.

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 3112. Modern Separation Techniques. (4) Prerequisite(s): CHEM 2131, CHEM 2131L, and CHEM 3111 with grades of C or above. A theoretical and application course in modern separation techniques with emphasis on liquid and gas chromatography. Two lecture hours and two laboratory periods of three hours each week. Either CHEM 3113 or CHEM 3112, but not both, may be used to meet requirements for the B.A. degree.

CHEM 3113. Survey of Instrumental Methods of Analysis. (4) Prerequisite(s): CHEM 3111 with grade of C or above. Methods of instrumental analysis with emphasis on sample handling, instrument parameters, data handling, and trouble-shooting in various areas that include Potentiometry, Spectroscopy, Mass Spectrometry, and Chromatography. Either CHEM 3113 or CHEM 3112, but not both, may be used to meet requirements for the B.A. degree. Credit will not be given for both CHEM 3113 and CHEM 4111. Two lecture hours and two three-hour laboratory periods per week.

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.

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.

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 3197. Internship in Community Education and Service. (1 to 3) Prerequisite(s): Junior or Senior standing, acceptance into the program, and approval of department. A project-oriented, service learning internship with a cooperating community organization. (Credit toward the B.A. and B.S. degrees in Chemistry will not be given.) *May be repeated for credit with permission of department. Graded on a Pass/No Credit basis.*

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) (W) 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.

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 4135. Concepts and Techniques in Organic Synthesis. (2) Pre- or Corequisite(s): CHEM 4133. Modern techniques of organic synthesis. Laboratory includes one or more multi-step syntheses of complex molecules. One hour of lecture and one laboratory period of three hours each week.

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.

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 4167. Structure and Mechanism in Protein Chemistry. (3) Prerequisite(s): CHEM 4165; CHEM 4166 or BIOL 4171; or permission of instructor. Examination of structures, properties, and functions of proteins, enzyme catalysis, and bioenergetics, emphasizing underlying

mechanistic chemical and biochemical principles.

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 4175. Physical Biochemistry. (3) Prerequisite(s): CHEM 3141, CHEM 4165, CHEM 4165L, and CHEM 4166 with grades of C or above. Colloid systems, equilibria in biological fluids, mass and energy transport in fluids and in association with membranes, energy storage and dissipation with relation to specific chemical bonding, enzyme kinetics.

CHEM 4185. Chemical Fate of Pollutants. (3) Prerequisite(s): Senior or Graduate Standing and CHEM 2132. Chemical reactivity and fate of pollutants (in air, water, soil) in terms of their chemical structure and energetics, mechanisms, structure/energy relationships and their interaction with reactive environmental species including light.

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. (1) (O,W) 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) (O,W) 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.*

Child and Family Development (CHFD)

CHFD 2111. Foundations in Child and Family Development. (3) Prerequisite(s): Pre-CHFD or CHFD major or minor; and minimum 2.5 GPA overall. Focuses on the latest research and practice in the field of early child development. Increases understanding of the basic concepts of development of children from birth through age 8, including developmental theory, milestones, current issues, and practical examples from the early childhood field. Opportunities to study the developmental domains (social, emotional, cognitive, language, physical, and creativity) and apply this knowledge to planning appropriate activities and establishing appropriate expectations for children are provided.

CHFD 2113. Development: Prenatal to 36 Months. (3) Prerequisite(s): Pre-CHFD or CHFD major or minor; and minimum 2.5 GPA overall. Focuses on development beginning at conception through 36 months of age. The potential influences of biological, genetic, environmental, and cultural factors on development are explored. Examined within the course are theories and research related to developmental processes. Relationship-based approaches (e.g., Touchpoints) are embedded throughout course content. A field-based clinical assignment of approximately 8 hours is required.

CHFD 2412. The Practice of Observation, Documentation, and Analysis of Young Children's Behavior. (3) Pre- or Corequisite(s): CHFD 2111; Pre-CHFD or CHFD major or minor; and minimum 2.5 GPA overall. 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 3112. Supporting Diverse Young Learners - Birth through Kindergarten. (3) Prerequisite(s): CHFD major with GPA of at least 2.5 overall and 2.75 in the major; CHFD 2111; CHFD 2113; and CHFD 2412. Focuses on the developmental and individual needs of children as related to group settings, curriculum decisions, and the design of early learning environments. Current issues, the developmentally appropriate practice, curriculum models, the role of the caregiver (family and/or teacher), the process of guiding and teaching, and the facilitation of development and learning of young children who are culturally, linguistically, and ability diverse are explored.

CHFD 3113. Families as the Core of Partnerships. (3) Prerequisite(s): CHFD major or minor with GPA of at least 2.5 overall and 2.75 in the major; CHFD 2111; CHFD 2113; and CHFD 2412. Examines diverse family systems and dynamics as related to the developmental process of parenting in adolescence and adulthood. Emphasis on the role of formal and informal support systems, and effective family-professional collaborative partnerships that are family driven.

CHFD 3114. Responsive Approaches for Infants and Toddlers. (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, CHFD 3112. Examines integrated approaches to supporting infants and toddlers who are culturally, linguistically, and ability diverse with an emphasis on practice in applied settings including all environments that support children's active learning. Provides opportunities to examine relationships that support and facilitate learning. A field-based clinical assignment of approximately 15-20 hours is included.

CHFD 3115. An Ecological Approach to Learning and Development - Early Childhood to Pre-Adolescence. (3) (W) 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; CHFD 2111; CHFD 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; CHFD 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 3118. Approaches to Family Supports and Resources. (3) (W) Prerequisite(s): Admittance to Teacher Education; GPA of at least 2.5 overall and 2.75 in the major; and CHFD 3113. Corequisite(s): CHFD 3416. 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. Candidates complete a field-based clinical assignment of approximately 20 hours in settings with infants, toddlers, and/or twos, their families, and/or prenatal families who are culturally, linguistically, and ability diverse. Collaboration with families is emphasized.

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): CHFD 3113. 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 3414. Language, Literacy, and Mathematical Thinking of Young Children: Birth-Kindergarten. (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 CHFD 3112. Examines the development of language, literacy, and mathematical thinking in young children who are culturally, linguistically, and ability-diverse. Research, current educational practice, and instructional materials and strategies are analyzed. Emphasis is on the design and assessment of integrated listening, speaking, reading, writing, and mathematical activities. A field-based clinical experience of approximately 15-20 hours is included.

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 CHFD 3113. 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 advisor. Independent study under the supervision of an appropriate faculty member. *May be repeated for credit.*

CHFD 4000. Topics in Child and Family Development. (1 to 6) May include classroom and/or clinical experiences in the content area. *May be repeated for credit with change of topic and permission of department.*

CHFD 4200. Child Life: Supporting Children and Families. (3) 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.

CHFD 4410. Student Teaching/Seminar: B-K Child and Family Development. (15) (0) Prerequisite(s): 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.*

Chinese (CHNS)

CHNS 1201. Elementary Chinese I. (3) Corequisite(s): CHNS 1201L. Fundamentals of the Chinese language, including speaking, listening comprehension, reading, and writing.

CHNS 1201L. Elementary Chinese I Lab. (1) Corequisite(s): CHNS 1201. A continuation of class activities practicing the fundamentals of the Chinese language, including speaking, listening comprehension, reading, and writing.

CHNS 1202. Elementary Chinese II. (3) Prerequisite(s): CHNS 1201 and CHNS 1201L or permission of department. Corequisite(s): CHNS 1202L. Fundamentals of the Chinese language, including speaking, listening comprehension, reading, and writing.

CHNS 1202L. Elementary Chinese II Lab. (1) Prerequisite(s): CHNS 1201 and CHNS 1201L. Corequisite(s): CHNS 1202. Continuation of class activities practicing the 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 2201. Intermediate Chinese I. (3) Prerequisite(s): CHNS 1202 and CHNS 1202L, or permission of department. Corequisite(s): CHNS 2201L. Review of grammar, with conversation and composition.

CHNS 2201L. Intermediate Chinese I Lab. (1) Prerequisite(s): CHNS 1202 and CHNS 1202L. Corequisite(s): CHNS 2201. Continuation of class activities, including a review of grammar, with conversation and composition.

CHNS 2202. Intermediate Chinese II. (3) Prerequisite(s): CHNS 2201 and CHNS 2201L, or permission of department. Corequisite(s): CHNS

2202L. Continued review of grammar, conversation, and composition.

CHNS 2202L. Intermediate Chinese II Lab. (1) Prerequisite(s): CHNS 2201 and CHNS 2201L. Corequisite(s): CHNS 2202. Continuation of class activities, including a review of grammar, conversation, and composition.

CHNS 2205. Accelerated Intermediate Chinese. (4) Prerequisite(s): CHNS 1202 and CHNS 1202L; 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) (W) 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 3225. Short-Term Abroad. (3) Prerequisite(s): Permission of instructor. Faculty-led short-term study abroad experience offered during Spring Break.

Criminal Justice and Criminology (CJUS)

CJUS 1100. Foundations of Criminal Justice. (3) Components of the criminal justice system are reviewed and their interrelatedness assessed; law enforcement, corrections and courts discussed; studies of the functions of the system reviewed. *Criminal Justice major or minor must earn a grade of C or above within two attempts.*

CJUS 1200. Professionalism in Criminal Justice and Criminology. (1) Prerequisite(s): Pre-Criminal Justice major. Prepares students for the rigorous workload associated with academic studies and offers skills to be successful as they pursue the Criminal Justice major and careers after graduation. *Criminal Justice majors must earn a grade of C or above within two attempts.*

CJUS 2320. Introduction to Courts. (3) Cross-listed Course(s): LEGL 2320. Prerequisite(s): CJUS 1100 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, and court reform policies.

CJUS 2340. Criminological Theory. (3) Prerequisite(s): CJUS 1100 with grade of C or above. 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 major or minor must earn a grade of C or above within two attempts.*

CJUS 2350. Introduction to Corrections. (3) Prerequisite(s): CJUS 1100 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 1100 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 1100 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 1100 with grade of C or above. Research designs, data collection, and data analysis relevant to criminal justice. *Criminal Justice major or minor must earn a grade of C or above within two attempts.*

CJUS 2380. Introduction to Law Enforcement. (3) Prerequisite(s): CJUS 1100 with grade of C or above. Critical examination of policing in terms of the past and present structures, methods, ethics, legal frameworks, and operations typical of contemporary American law enforcement agencies.

CJUS 3000. Topics in Criminal Justice. (3) Prerequisite(s): CJUS 1100 with a 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 1100 with a grade of C or above; CJUS 2320; 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; comprehensive analysis of the various crimes against persons, property, and morality.

CJUS 3321. Criminal Procedure. (3) Cross-listed Course(s): LEGL 3321. Prerequisite(s): CJUS 1100 with a grade of C or above; CJUS 2320; Criminal Justice major or minor; and Junior or Senior standing. Examines the rules that govern everyday operation of the criminal justice system from investigation to appeal.

CJUS 3322. Juvenile Law. (3) Prerequisite(s): CJUS 1100 with a grade of C or above; CJUS 2320; Criminal Justice major or minor; and Junior or Senior standing. Statutory and case law relating to juveniles with special emphasis on the North Carolina Juvenile Code.

CJUS 3323. Correctional Law. (3) Prerequisite(s): CJUS 1100 with a grade of C or above; CJUS 2320; 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 1100

with a grade of C or above; Criminal Justice major or minor; and Junior or Senior standing. Measurement of juvenile delinquency, explanations of delinquent behavior, and policies intended to both prevent and respond to delinquent behavior.

CJUS 3341. The Criminal Offender. (3) Prerequisite(s): CJUS 1100 with a grade of C or above; Criminal Justice major or minor; and Junior or Senior standing. Examines the research, theory, and practice of criminal behavior focusing primarily on interaction of the offender with social-environmental factors.

CJUS 3351. Community Corrections. (3) Prerequisite(s): CJUS 1100 with a grade of C or above; CJUS 2350; 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 1100 with a grade of C or above; CJUS 2350; 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 1100 with a grade of C or above; CJUS 2350; 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): 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 3360. Criminal Justice Learning Community I. (3) (W) Prerequisite(s): CJUS 1100 with grade of C or above; and Pre-Criminal Justice major. First course in the year-long sequence Learning Community for Criminal Justice Transfer Students. Designed to introduce transfer students to criminal justice and expose them to the discipline with an emphasis in writing, including exploration of academic and social culture at the University and within the discipline.

CJUS 3361. Criminal Justice Learning Community II. (3) (O) Prerequisite(s): CJUS 1100 with grade of C or above; CJUS 3360; and Pre-Criminal Justice major. Second course in the year-long sequence Learning Community for Criminal Justice Transfer Students, focuses on career and job seeking skills, including preparation for work experience and community involvement.

CJUS 3362. Famous Criminal Trials of the Twentieth Century. (3) Prerequisite(s): 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) (O) Cross-listed Course(s): LEGL 3363. Prerequisite(s): 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) (O,W) Prerequisite(s): CJUS 1100 with a 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) (O) Prerequisite(s): CJUS 1100 with a 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 1100 with a 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 the physical, psychological and sexual abuse of women and children and how men can become part of the solution to this social cancer.

CJUS 3367. Problems and Decisions in Criminal Justice. (3) (W) Prerequisite(s): CJUS 1100 with a 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 1100 with a grade of C or above; CJUS 2380; 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 3381. Security and Loss Prevention. (3) Prerequisite(s): CJUS 1100 with a grade of C or above; CJUS 2380; Criminal Justice major or minor; and Junior or Senior standing. Overview of the field of private security and loss prevention with emphasis on current legislation, loss prevention, risk management, and security countermeasures.

CJUS 3382. Community-Oriented Policing and Problem-Solving. (3) Prerequisite(s): CJUS 1100 with a grade of C or above; CJUS 2380; 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. (1 to 6) Prerequisite(s): Criminal Justice major; minimum 2.5 GPA; Junior or Senior standing; and permission of department and criminal justice agency. Supervised

experience in a criminal justice agency. *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 1100 with a 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 Criminal Justice. (1 to 6) Prerequisite(s): CJUS 1100 with a grade of C or above; Criminal Justice major or minor; and Junior or Senior standing. Specialized topics in criminal justice. *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) (O,W) Cross-listed Course(s): LEGL 4320. Prerequisite(s): CJUS 1100 with a 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 4340. Seminar on Sexual Assault. (3) (O) Prerequisite(s): CJUS 1100 with a grade of C or above; Criminal Justice major or minor; and Junior or Senior standing. A comprehensive and systematic critical examination of sexual exploitation in the United States. Topics may include: historical and legal perspectives, theories of causation, and practical policy implications in the areas of rape, child sexual abuse, and incest, among others.

CJUS 4350. Victims and the Criminal Justice System. (3) (O) Prerequisite(s): CJUS 1100 with a 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 1100 with a 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) (O) Prerequisite(s): 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 1100 with a 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 1100 with a grade of C or above; Criminal Justice major or minor; and Junior or Senior standing. Examination of the patterns and trends in international crime such as terrorism, transnational organized crime, and trafficking in people, and a review of how the legal traditions of common law, civil law, Islamic law, and socialist legal systems are structured and function.

CJUS 4362. Computer Crime. (3) Prerequisite(s): CJUS 1100 with a grade of C or above; Criminal Justice major or minor; and Junior or Senior standing. The complex nature of computer crime, as well as its significance across a variety of disciplines, including the social sciences and information systems.

CJUS 4363. Gender, Race, and Justice. (3) (O) Prerequisite(s): CJUS 1100 with a grade of C or above; Criminal Justice major or minor; 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. Elders and the Criminal Justice System. (3) Cross-listed Course(s):: GRNT 4364. Utilizes an interdisciplinary approach to examining the many ways in which elders interface with the criminal justice system. Topics include: the nature and extent of elderly crime, the criminal justice system response to older offenders, elders as participants in criminal trials, elders 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 4370. Data Analytics and Crime. (3) (W) Prerequisite(s): CJUS 1100 with a grade of C or above; Criminal Justice major or minor, and Junior or Senior standing. An overview of the skills to read, manipulate, and analyze crime and victimization data.

CJUS 4371. Criminal Data Sources, Data Management, and Cleaning. (3) (W) Prerequisite(s): CJUS 1100 with a grade of C or above; Criminal Justice major or minor, 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) (W) Prerequisite(s): CJUS 1100 with a grade of C or above; Criminal Justice major or minor, and Junior or Senior standing. Scholarly and analytic measurement of drug, alcohol, and crime data and the health and financial impacts that has on society.

CJUS 4373. Intelligence Analysis and Security Analytics. (3) (W) Cross-listed Course(s): POLS 4381. Prerequisite(s): CJUS 1100 with a grade of C or above; Criminal Justice major or minor, 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) (W) Prerequisite(s): CJUS 1100 with a grade of C or above; Criminal Justice major or minor, 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) (W) Prerequisite(s): CJUS 1100 with a grade of C or above; Criminal Justice major or minor, 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) (W) Prerequisite(s): CJUS 1100 with a grade of C or above; Criminal Justice major or minor, 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) (W) Prerequisite(s): CJUS 1100 with a grade of C or above; Criminal Justice major or minor, 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) (W) Prerequisite(s): Criminal Justice major or minor; Junior or Senior standing; and CJUS 1100 with grade of C or above. 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) (W) Prerequisite(s): Criminal Justice major or minor; Junior or Senior standing; and CJUS 1100 with grade of C or above. 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 1100 with a grade of C or above; CJUS 2340; CJUS 2370; Criminal Justice major or minor; 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 Project in Criminal Justice. (3) Prerequisite(s): CJUS 1100 with a grade of C or above; Criminal Justice major or minor; Junior or Senior standing; 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.

Liberal Arts & Sciences (CLAS)

CLAS 2600. LEADS Colloquium. (1) Prerequisite(s): Freshman or Sophomore standing. 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.

CLAS 3000. Topics in Liberal Arts & Sciences. (1 to 4) Prerequisite(s): Sophomore, Junior, or Senior standing. Topics chosen from the general area of the arts and sciences in order to demonstrate relationships and interdisciplinary influences. *May be repeated for credit with change of topics and permission of student's major department.* Can be used toward general degree requirements as indicated each time the course is offered.

CLAS 3400. Non-Residential Studies. (1 to 15) 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.

CLAS 3480. Citizenship and Service Practicum. (3) (O,W) 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.

CLAS 3500. Liberal Arts & 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 Liberal Arts & 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.*

CLAS 4800. LEADS Capstone Project. (3) (W) Prerequisite(s): CLAS 2600, LEADS elective courses, Senior standing, and permission of department. 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.

Construction Management (CMET)

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 2135. Building Information Modeling (BIM). (3) Prerequisite(s): ETCE 1104. 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 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): ETCE 2105, CMET 3224, and Engineering major or minor. Methods used to prepare construction cost estimates, engineer production and cost, and determine labor and equipment resources.

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, Documents, and Permits. (2) Prerequisite(s): CMET 1680, CMET 3224, and Engineering major or minor. An analysis of technical specifications, construction regulations and permits, procurement documents, and safety programs and plans.

CMET 4126. Project Scheduling and Control. (3) Prerequisite(s): CMET 3224 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 4127. Construction Law and Regulatory Issues. (3) Prerequisite(s): Engineering major or minor. Examination of the legal problems encountered by architects, engineers, contractors, owners, sureties, and lenders involved in the construction process. Special emphasis on the legal rights and liabilities of the various participants in construction projects. Claims preparation, negotiation, arbitration, and litigation methods of dispute resolution.

CMET 4129L. Construction Planning Laboratory. (1) (W) 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) (W) 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. Building Information Modeling. (3) Prerequisite(s): ETCE 3271; ETCE 1104 or ETGR 1104; and Engineering major or minor. The creation, management, and application of building information models 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 4150. Green Building. (3) Prerequisite(s): Senior standing and Engineering major or minor. Sustainable design and construction. Topics include: sustainable sites, water efficiency, energy and atmosphere, materials and resources, indoor environmental quality, innovation in design, and regional priority.

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) (O,W) 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 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 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.

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 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 4800. Independent Study. (1 to 5) Independent study investigations in architecture, art, performance, and design.

Communication Studies (COMM)

COMM 1101. Public Speaking. (3) (O) Prerequisite(s): Pre-Communication Studies major/minor, English major, Pre-Elementary Education major, Elementary Education major, Pre-Kinesiology major, Exercise Science major, or Pre-Public Health major. 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 1107. Introduction to Communication Contexts. (3) A survey of the nature and practice of communication in interpersonal, small group, intercultural, organizational, public relations, and mass communication contexts.

COMM 2050. Topics in Oral Communication. (3) (O) 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) Prerequisite(s): Pre-Communication Studies major/minor, Pre-Public Health major, Public Health major, or Computer Science major. 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): 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 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) Prerequisite(s): Communication Studies major or minor, Pre-Elementary Education major, Elementary Education major, Pre-Public Health major, or Public Health major. 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. Pre- or Corequisite(s): JOUR 2100. 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) 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. Timely and important areas relevant to the study of health communication. *May be repeated for credit with permission of advisor.*

COMM 3052. Topics in Mass Media. (3) Timely and important areas relevant to the study of the mass media. *May be repeated for credit with permission of 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) (W) Timely and important areas relevant to communication studies. *May be repeated for credit with permission of the major advisor.*

COMM 3057. Topics in Communication Studies. (3) (O,W) 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) (W) Prerequisite(s): Communication Studies major; COMM 2100; and STAT 1220, STAT 1221, or STAT 1222. 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): Communication Studies major and COMM 2101. 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, AFRS 2170, or HLTH 2101; and Communication Studies major or minor, Public Health major or minor, or Africana Studies major. 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. Communication and Mass Media. (3) Prerequisite(s): COMM 2100 and Communication Studies major or minor. A survey of the function and history of print and electronic media as forms of communication, their influence upon society, and the legal and economic environments in which they operate.

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) Cross-listed Course(s): INTL 3115. 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 3127. Global Media. (3) Cross-listed Course(s): INTL 3127. The course 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.

COMM 3130. Communication and Public Advocacy. (3) Prerequisite(s): COMM 2100; and Communication Studies major or minor, or Public Health major. Examination of how symbols are used in public advocacy from both applied and theoretical perspectives with emphasis on rhetorical uses of language and non-verbal symbols in the creation and transmission of public messages.

COMM 3131. African American Oratory. (3) Oratory by African Americans using in-depth study of speech texts and video and general rhetorical principles to examine historic as well as lesser-known speeches.

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; and Communication Studies major or minor, Public Health major, or Software and Information Systems major. 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 3150. Gender, Culture, and Communication. (3) Cross-listed Course(s): ANTH 3160. 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.

COMM 3160. Business Communications. (3) (O,W) 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, JOUR 2100, and JOUR 2160. Pre- or Corequisite(s): COMM 2145. 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 3246. Public Relations Strategy. (3) Prerequisite(s): Communication Studies major and COMM 2145. Pre- or Corequisite(s): COMM 2146. Focuses on the planning, problem-solving, and management skills required in the contemporary practice of public relations. Students analyze a variety of public relations models and learn to develop problem statements, goals, objectives and tactics, identify and research target publics, and evaluate strategic program results.

COMM 3403. Debate Practicum. (2) Prerequisite(s): COMM 2103 or equivalent and permission of instructor. Application of debate principles and practices as a member of UNC Charlotte Debate Team. Research, argument construction and tournament competition required. *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 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 3890. 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 3891. Honors Thesis II. (3) Prerequisite(s): COMM 3890; 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 4050. Topics in Communication Studies. (3) Timely and important areas relevant to communication studies. *May be repeated for credit with permission of advisor.*

COMM 4101. Media and the Law. (3) Cross-listed Course(s): LEGL 4101. Prerequisite(s): Communication Studies major, Junior or Senior standing or permission of instructor. 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.

COMM 4102. Federal Interpretation of the First Amendment. (3) Prerequisite(s): Junior or Senior standing or permission of instructor. In-depth case analysis of tests determining Constitutional boundaries of expression, including clear and present danger, prior restraints, fighting words/symbolic speech, strict scrutiny, obscenity, indecency.

COMM 4115. Seminar in Health Communication. (3) Prerequisite(s): COMM 3115, Senior standing, and Communication Studies major. Course provides in-depth examination of a major area of health communication utilizing extensive readings, discussion and written work.

COMM 4141. Advanced Organizational Communication. (3) Prerequisite(s): Communication Studies major and COMM 3142. 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 3245, and COMM 3246. 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.*

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 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. (2) 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 human body and its innate predisposition for movement expression. Students learn, embody, practice, and demonstrate improvisational dance skills in a studio setting.

DANC 2016. Choreographic Analysis. (3) (O) 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. Hip-Hop Dance. (2) The history of Hip-Hop Dance where students learn basic movements from styles according to region and era. Also includes the commercial industry, street dance culture, and freestyle movement. By the end of the course, students are more comfortable in an industry-style dance class and have tools to create their own movement.

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. Vintage Jazz Dance. (2) An introduction to the style and cultural context of this indigenous U.S. vernacular dance form that evolved in the first half of the 20th century. *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. (1) 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 from DANC 3230. *May be repeated for credit.*

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 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 up to 7 times.*

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) (W) Exploration of dance as a means of developing personal and shared identities. Focuses on critical reading, research, and writing; and on examining dance through sociocultural, historical, and political lenses. Among the traditions and contemporary innovations examined are dance forms of the African diaspora and western concert dance.

DANC 3222. Dance History, Theory, and Critical Thinking II. (3) Exploration of dance as a means of transforming personal and shared identities. Focuses on critical evaluation of dances through aesthetic and sociocultural lenses. Among the traditions and contemporary innovations examined are dance forms of the African diaspora and western concert dance.

DANC 3227. Ballet Pedagogy. (3) (O) 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; and DANC 2125, DANC 2210, or DANC 2218. 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 3250. Dance in Community. (3) (O) 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 3252. 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 videos, reconstruct movement through physical participation, engage in ethnographic field studies, and more.

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 3328. Teaching Dance: Theories and Practices. (3) (O) 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 3402. Performance Practicum. (1) 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 Advanced Dance Studies 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) (W) 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 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 2100; 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 diverse 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 4257. Dance Education Methods for the Secondary School. (3) (W) Prerequisite(s): DANC 1209; DANC 1217; DANC 1280; EDUC 1100 or EDUC 2100; 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 diverse theories and practices for teaching standards-based dance education in grades 6-12 with emphasis on multicultural arts education pedagogy. Students plan, deliver, and assess instruction and reflect on their experiences. Includes observation and teaching in a secondary school 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. (3) 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 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) (O) 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 4601. Individual Project. (1 to 6) Prerequisite(s): Permission of department chair. An individual project course for Dance majors. *May be repeated for credit.*

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.

Data Science (DTSC)

DTSC 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.

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 2110. Sport Business Analytics. (3) Prerequisite(s): Sophomore, Junior, or Senior standing. 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.

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 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) (O,W) 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) (O,W) 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 4301. Data Science for Social Good A. (3) Prerequisite(s): DTSC 3601, DTSC 3602, ITCS 3162, and STAT 2223. 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 3601, DTSC 3602, ITCS 3162, and STAT 2223. 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.

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 2111. Network Theory I. (3) Prerequisite(s): Computer Engineering or Electrical Engineering major or minor. Pre- or Corequisite(s): MATH 2171 and PHYS 2102, 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, 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 2155. Instrumentation and Networks Laboratory. (1) (W) 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) (W) 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): MATH 1242 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. Includes laboratory design projects.

ECGR 2252. ECE Sophomore Design. (2) (0) 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): ECGR 2111 and MATH 2171 with grades 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 2255. Digital Design Laboratory. (2) Prerequisite(s): ECGR 2156 and ECGR 3181 with grades of C or above; and Engineering major or minor. Experiments in Digital Systems Design including the use of Programmable Logic Devices.

ECGR 3090. Special Topics in Electrical Engineering. (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): ECGR 2104 and ECGR 2181 with a grades of C or above; 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 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 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 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): ECGR 3121 with grade of C or above; 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 3155. Systems and Electronics Laboratory. (1) (W) 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) (W) 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) (0) Prerequisite(s): Engineering major or minor. Pre- or Co-requisite(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 3180. Data Structures and Algorithms in C++. (3) Prerequisite(s): ECGR 2104 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 3181. Logic System Design II. (3) Prerequisite(s): ECGR 2181 with grade of C or above or permission of department; and Engineering major or minor. Digital systems design and test. Top-down design of multi-input based controller systems; programmable logic devices.

ECGR 3182. Digital Electronics. (3) Prerequisite(s): ECGR 2181 and ECGR 3131 with grades of C or above; and Engineering major or minor. Bipolar and field-effect transistors, switching characteristics, device models, logic families. Memory devices, one-shots, Schmitt triggers, logic gates, drivers. Use of logic analyzers.

ECGR 3183. Computer Organization. (3) Prerequisite(s): ECGR 2104 and ECGR 2181. 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 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 in Electrical Engineering. (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 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 4102. Engineering Simulation. (3) Prerequisite(s): ECGR 2103 or permission of department; and Engineering major or minor. A wide range of simulation related topics are introduced including the theory of simulation, characteristics of simulators, and trade-offs in simulation studies. Continuous and discrete simulation with primary emphasis on application of simulation techniques to engineering problems. Simulation of actual problems based on students' interest and experience areas.

ECGR 4103. Applied Computer Graphics. (3) Prerequisite(s): ECGR 3111 or permission of department; and Engineering major or minor. Interactive graphics; raster, character, vector, graphics, display technologies; rotation, scaling, translating of graphics image; image processing/enhancement; feature extraction; 3-D graphics.

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. Real-Time Machine Learning. (3) Cross-listed Course(s): ECGR 5106. Prerequisite(s): ECGR 3101 or ECGR 3111. An interactive practical introduction to real-time machine learning and deep learning inference based on leveraging GPU and CPU platforms. Introduces Convolutional Neural Networks (CNNs) and Recurrent Neural Networks (RNNs) inference algorithms for real-time computer vision and scene analysis, including object detection, pose estimation, and activity recognition. Examines basic deep learning constructs based on current design tools (e.g., Pytorch and Real-time Tensorflow libraries).

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 4113. Modeling and Analysis of Dynamic Systems. (3) Prerequisite(s): ECGR 3111 or permission of department; and Engineering major or minor. Models and dynamical properties of mechanical, thermal, and fluid systems, utilizing by analogy the properties of electrical circuit theory. Emphasis on the formulation of circuit models and the development of terminal equations of system components. Dynamic response to step, pulse, and sinusoidal driving functions using Laplace transforms. Sinusoidal steady-state and frequency response of systems.

ECGR 4115. Convex Optimization and AI Applications. (3) Cross-listed Course(s): ECGR 5115. Prerequisite(s): ECGR 2103 and MATH 2164, or equivalent courses; and Junior standing 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 4121. Antennas. (3) Prerequisite(s): 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): 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 4105 or ECGR 5105. 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 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 4135. Physical Electronics. (3) Prerequisite(s): ECGR 3122 or permission of department; and Engineering major or minor. Dynamics of charged particles; electron motion in electromagnetic fields; types of electron emission; beam focusing; longitudinal and transverse beam waves; microwave generation; plasma parameters.

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 4137. Device Electronics for Integrated Circuits. (3) Prerequisite(s): ECGR 3132 with grade of C or above or permission of department; and Engineering major or minor. The basic operating principles of electronic devices in integrated circuits are treated. The physical models of these devices are discussed. Graduate students are required to carry out laboratory experimentation.

ECGR 4138. Electronic Thin Film Materials and Devices. (3) Prerequisite(s): ECGR 3132 or ECGR 3133 with grades 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 4139. Digital Communication Systems. (3) Prerequisite(s): ECGR 2181, ECGR 3131, and Engineering major or minor. Topics include: digital data transmission systems, signal and system representation, digital system performance characterization, pulse code modulation, and statistical communications theory.

ECGR 4140. Introduction to VLSI Processing. (3) Prerequisite(s): Permission of department and Engineering major or minor. Microelectronic fabrication; relevant materials, processes, and tools; fabrication of a simple structure in the VLSI clean room/lab.

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 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): ENGR 1202 "E" sections for Electrical and Computer Engineering students 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): Senior standing and Engineering major or minor. Modeling of industrial robots including homogeneous transformations, kinematics, velocities, static forces, dynamics, computer animation of dynamic models, motion trajectory planning, and introduction to vision, sensors, and actuators.

ECGR 4162. Control of Robotic Manipulators. (3) Prerequisite(s): ECGR 4161, ECGR 4111, and Engineering major or minor. Control of industrial robots including linear, nonlinear, and adaptive control of robot's motion plus control of forces and torques exerted by the end-effector. Additional Topics include: computer animation of the controlled behavior of industrial robots, actuator and sensor types, robot vision, and control computer/robot interfacing.

ECGR 4165. Laser Electronics I. (2) Prerequisite(s): ECGR 3121 and PHYS 3141, or permission of department; and Engineering major or minor. Basic principles of quantum electronics, interaction of light with atoms, properties of laser light, and laser applications. Electromagnetic aspects of lasers, Maxwell's Equations and beam, ray optics, matrix methods for the analysis and synthesis of optical systems. Laser resonator design, oscillation modes, mode frequency and stability.

ECGR 4166. Laser Electronics II. (3) Prerequisite(s): ECGR 3121 and PHYS 3141, or permission of department; and Engineering major or minor. Interaction of light with atoms. Maxwell-Schrődinger semiclassical analysis. Effects of gain, dispersion, and saturation in the design of laser amplifiers and oscillators.

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 4182. Digital System Testing. (3) Prerequisite(s): ECGR 2181 and ECGR 3131 with grades of C or above, or permission of department; and Engineering major or minor. Introduction to VLSI testing, test process and automatic test equipment, test economics and product quality, test economics, fault modeling, logic and fault simulation, testability measures, combinational and sequential circuit test generation, memory test, analog test, delay test, IDDQ test, design for testability, built-in self test, boundary scan, analog test bus, system test and core test.

ECGR 4183. Network Synthesis. (3) Prerequisite(s): ECGR 4113 and Engineering major or minor. The positive real concept, properties and methods of testing. Realizability conditions on driving point functions. Methods of synthesis of one-port. Physical realizability and properties of two-port networks. Transfer function synthesis. Approximation methods.

ECGR 4184. Device Characterization, Parameterization and Modeling. (3) Prerequisite(s): ECGR 3132 or permission of department; and Engineering major or minor. Advance device and circuit analysis; device and circuit simulation using SPICE, ECAP, or equivalent. Parametric modeling of active devices. Device characterization and parameterization; temperature effects; thermal cycling. Analysis of device failure modes.

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 4186. Optical Communication and Optical Signals. (3) Prerequisite(s): ECGR 4125 or permission of department; and Engineering major or minor. The course covers the fundamentals of modern optical networks, optical systems, and protocols. These include transmission, detection, multiplexing/demultiplexing and related prevailing technology.

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 4188. Advanced VLSI Systems Design. (3) Prerequisite(s): ECGR 4433 and Engineering major or minor. A project-oriented course dealing with advanced topics in VLSI systems design and analysis such as circuit design techniques, array structures, performance estimation, automated routing, and device electronics.

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 4193. Experiments in Modern Optical Engineering. (3) Prerequisite(s): ECGR 4125 and ECGR 4165, or permission of department; and Engineering major or minor. Lectures and laboratory experiments in lasers, optical fiber, optical sensing, and optical signal processing. Offered as a supplement to ECGR 4125 and ECGR 4165, with emphasis on hands-on experiments, measurements, and design.

ECGR 4199. Fundamentals of Nuclear Science and Nuclear Energy: A Contemporary Overview. (3) Prerequisite(s): Modern physics or permission of department; and Engineering major or minor. Atomic nucleus, kinematics, cross-section, and energy conversion, essential topics in atomic theory, nuclear theory, radioactive decay, interaction of radiation with matter, neutron physics, neutron transport, nuclear reaction. Principles of fission reactors, the fission process, the controlled chain reaction and the critical conditions. Principles of a nuclear reactor, overview of different reactor types, components of the core, reactor containment, reactor safety systems, steam turbine plant, thermo hydraulic aspects of the core and the fuel elements, loss of coolant, break of steam turbine plant, thermo hydraulic aspects of the core and of the fuel elements, loss of coolant, break of steam generator pipe, nuclear reactors accidents, consequences of core melt, and new topics in nuclear reactor design in III and IV generation of reactors.

ECGR 4222. Multidimensional Stochastic Signal Processing. (3) Prerequisite(s): ECGR 3111 or permission of department; and Engineering major or minor. Review of probability, univariate and multivariate distribution functions, noise modeling, least-squares estimation, non-linear optimization, Markov chains, Bayes theorem; applications.

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) (O,W) Prerequisite(s): Senior standing; Electrical Engineering major; and ECGR 3121 and ECGR 3157 with grades of C or above. 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) (O,W) 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) (O,W) Prerequisite(s): Senior standing; Computer Engineering major; and ECGR 3101 and ECGR 3157 with grades of C or above. 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) (O,W) 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): ECGR 3122 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 4265. Microwave Devices and Electronics. (3) Prerequisite(s): ECGR 3122 and PHYS 2102 with grades of C or above or permission of department; and Engineering major or minor. Microwave transmission line theory, parameters, microwave waveguides, microstrip line and components including resonators, slow-wave structures, tees, rings, couplers, circulators, isolators, and microwave tubes. Microwave solid state electronics, including microwave transistors, tunnel diodes, transferred electron devices, avalanche transit-time devices, and mono-lattice microwave integrated circuits.

ECGR 4290. Science and Technology of Photovoltaics. (3) Prerequisite(s): ECGR 3133 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 4299. Nuclear Reactor Engineering. (3) Prerequisite(s): ECGR 4199 and PHYS 3141 or permission of department; and Engineering major or minor. Reactor operation and control, neutron diffusion, distribution, moderation, interaction, and transport, nuclear reactor theory, the time-dependent reactor, heat removal, radiation protection, radiation shielding, radiation damage, IV generation reactors, and advanced topics in nuclear reactor technologies and nuclear 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 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 4433. VLSI Systems Design. (3) Prerequisite(s): ECGR 2181 and ECGR 3131 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 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 1090. Topics in Economics. (1 to 3) Consideration of topics from the areas of economic theory, economic development, consumer economics, welfare economics, and current economic problems. *May be repeated for credit with change of topic.*

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 2101. Principles of Economics - Macro. (3) Prerequisite(s): Sophomore, Junior, or Senior standing. Scope and methodology of economics as a social science, the measurement of national income, the theory of national income determination, money and banking, monetary and fiscal policy, and international economics.

ECON 2102. Principles of Economics - Micro. (3) Prerequisite(s): Sophomore, Junior, or Senior standing. Pricing mechanism of a market economy, the industrial organization of the U.S. economy, problems of economic concentration, the theory of income distribution, and comparative 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 3105. Industrial Relations. (3) Prerequisite(s): introductory course in economics or permission of instructor. Systematic analysis of the sociological, economic, and legal forces affecting the work environment. Emphasis on labor unions and employment law.

ECON 3106. Labor Economics. (3) Prerequisite(s): ECON 2101 and ECON 2102; MATH 1120 or MATH 1241; and STAT 1220 or equivalent. 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 3107. Employment Law. (3) Cross-listed Course(s): MGMT 3243. Legal principles and legislation which control employment decisions in union and non-union settings. Topics include: fair employment practices, anti-discrimination law, representation elections, unfair labor practices, and dispute settlement processes.

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. The characteristics and functions of money in the modern economy, monetary theory and policy, and financial 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. Analysis of economic aggregates with inflation, unemployment, and income determination.

Keynesian, Classical, Monetarist, and supply side models.

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. Economic decisions of particular interest to business firms (e.g., demand theory and forecasting, cost analysis, and pricing policies).

ECON 3131. Economic History of the United States. (3) Prerequisite(s): ECON 2101 and ECON 2102; STAT 1220 or equivalent; all with grades of C or above; or permission of instructor. Use of economic models to further understanding of the growth and development of the U.S. economy from colonial times to the Great Depression. Emphasis on the sources and consequences of American growth, with particular emphasis on technological, demographic, and institutional changes.

ECON 3141. 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. The application of microeconomic concepts to markets for health/medical care, including issues such as healthcare delivery, financing, regulation, and costs.

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 3161. 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 3170. Ethics and Global Capitalism. (3) Cross-listed Course(s): MGMT 3170. Prerequisite(s): Junior or Senior standing. The course is a study of ethical arguments supporting and critical of capitalist economic and social systems. Topics to be addressed may include property rights, justice, desert, equality, and sustainable capitalism.

ECON 3171. International Business Economics. (3) Prerequisite(s): ECON 2101 and ECON 2102 with grades of C or above. Survey of international trade and international monetary theory including determination of international trade patterns, welfare implications of international trade and trade restrictions, economic integration, exchange rate determination, and the balance of payments. Credit will not be given for ECON 3171 where credit has already been given for ECON 4171 or ECON 4172.

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 3500. Economics Cooperative Education Experience. (0) Prerequisite(s): Economics major. Enrollment in this course is required for the department's Cooperative Education students during each semester they are working in the 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.*

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. Mathematical Economics. (3) Prerequisite(s): ECON 2101 and ECON 2102; and MATH 1120 or MATH 1241; all with grades of C or above. Both microeconomic and macroeconomic problems are analyzed with quantitative techniques. Emphasis is given to the study of methods for mathematically formulating economic relationships including the tools used for finding maximums, minimums, and limits to single, recursive, and simultaneous economic relationships.

ECON 4112. Econometrics II. (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. Public Finance. (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. Revenue and expenditure problems of governmental units, intergovernmental financial relationships and the impact of federal fiscal policy upon the American economy.

ECON 4117. Business and Economic Forecasting. (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. Analysis of fluctuations in economic activity, including production, employment, prices and industry sales. Topics include: forecasting methods, business cycle theories, historical record, industry and sales forecasting.

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 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 4160. Economics of Transportation. (3) Prerequisite(s): ECON 2101 and ECON 2102; MATH 1120 or MATH 1241; STAT 1220 or equivalent; all with grades of C or above. Analysis of transportation systems. Topics include: the historical development of various modes, costs and rate-making, regulation and national transportation policy.

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. Industrial Organization and Public Policy. (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. Energy and Environmental Economics. (3) Prerequisite(s): ECON 2102 with grade of C or above. Economic issues of both energy and environment. Energy issues include the historical development of energy resources, supply and demand considerations and projections of the future energy balance. Environmental issues are externalities, common property resources, and government regulation. Policy considerations include environmental standards, pollution charges, and property rights. Cost-benefit analysis and microeconomic theory are applied.

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 2100 may not take EDUC 1100.

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.

EDUC 2150. Human Development Across the Life Span. (3) Biological, psychological and social development throughout the life span.

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 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 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 2100; INTL 1101; INTL 2100, INTL 2121, or INTL 2131; and LBST 2301. 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 2100; INTL 1101; INTL 2100, INTL 2121, or INTL 2131; and LBST 2301. 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. Modifying Instruction for Learners with Diverse Needs. (3) Prerequisite(s): admission to Teacher Education. Corequisite(s): enrollment in methods course(s) with field experience requirement. Strategies for adapting standard instruction to meet the learning needs of diverse learners, including students at risk for school failure, individuals from culturally and linguistically diverse backgrounds, gifted learners, 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.

Education – Learning, Design, and Technology (ELDT)

ELDT 4100. Computer Applications in Education. (3) Computer systems and software for enhancing teaching, learning, and educational management; evaluating, selecting, and integrating courseware; focus on current PC operating system, word processing, database, spreadsheet, presentation, Internet, e-mail, and multimedia software.

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 and Diversity. (3) (W) Prerequisite(s): Admission to Teacher Education. Instructional methods for teaching and integrating social studies, economics, history, civics, geography, and diversity in elementary schools. Focuses on problem-solving, critical thinking, and democratic citizenship with strategies for valuing people with differences in learning styles, race, class, culture, gender, and disability.

ELED 3226. Teaching Language Arts to Elementary School Learners. (3) (W) 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 Diversity in the Elementary School Classroom. (3) Prerequisite(s): Admission to Teacher Education. Curriculum planning and development with an emphasis on relating school content and skills to designing and implementing integrated activities within a diverse elementary classroom setting. Explores the current knowledge of best practices of a variety of teaching strategies and methods necessary to ensure equitable opportunities to all students.

ELED 4255. CAMMP: Computer Applications and Manipulative Mathematics Programs. (3) Prerequisite(s): Admission to Teacher Education and permission of instructor. Examination of constructivism in K-8 mathematics teaching, with emphasis on concrete, representational and symbolic manipulatives; developmentally appropriate computer software.

ELED 3292. Theories and Practice for Equity in Urban Education. (3) Prerequisite(s): Admission to Elementary Education Program and completion of all ELED coursework except 4000-level courses. Examines ideological, cultural, and systemic structural inequities in various educational settings, including urban education. Focuses on educational theories and practices that promote equity and social change. Also explores socioeconomic class, race, religion, language, and gender, and personal identity.

ELED 4420. Student Teaching/Seminar: K-6 Elementary Education. (15) (0) 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): ELET 2112 or ETGR 2106; 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) (W) 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) (W) 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) (W) 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 4151. Communication Systems. (3) Prerequisite(s): ELET 3113 and Engineering major or minor. Basic principles and concepts underlying modern communication systems. Topics include: systems, signals, modulations (AM, FM, PM, FSK, PSK, QAM, PCM), transmission, reception, cellular, caller ID, and networks.

ELET 4152. Digital Signal Processing. (3) Cross-listed Course(s): ENER 5152. Prerequisite(s): ELET 3113 and Engineering major or minor. Discrete-time signals; discrete-time systems; Linear constant-coefficient difference equations; Periodic sampling; reconstruction from samples; changing the sampling rate; the z-transform; z-transform properties; transform analysis of linear time-invariant systems; digital filter design techniques; discrete Fourier Transform and the FFT algorithm. Meets for three (3) lecture hours per week.

ELET 4224. Advanced Filter Design. (3) Prerequisite(s): ELET 4123 and Engineering major or minor. The design, analysis, simulation and implementation of composite, cascaded and summation filters, extending the material presented in ELET 4123. Topics include: delay filters; inverse Chebyshev filters; elliptic filters; prototype and transformed ladders; ladder design with simulated elements; leapfrog simulation of ladders; switched-capacitor filters; delay equalization; digital filter design; wavelets; and filter banks.

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.

Energy and Electromechanical Systems (ENER)

ENER 4000. Special Topics. (1 to 4) Cross-listed Course(s): ENER 5000. Prerequisite(s): Senior standing; Engineering Technology or Construction Management major; or permission of department. Examination of specific new areas which are emerging in the various fields of engineering technology and/or construction management. The course builds upon the knowledge students have gained from their engineering technology and/or construction management curriculum. *May be repeated for credit.*

ENER 4140. Energy Management. (3) Prerequisite(s): 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.

ENER 4250. Analysis of Renewable Energy Systems. (3) Prerequisite(s): 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.

ENER 4260. Hydrogen Production and Storage. (3) Prerequisite(s): PHYS 1101 or equivalent; ETME 3143 or equivalent; or permission of instructor; and Engineering major or minor. Basic concepts and principles of hydrogen technologies, including properties, usage, safety, fundamental understanding of hydrogen storage and production technologies.

ENER 4275. Air Conditioning Systems. (3) Prerequisite(s): ETME 3143 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.

ENER 4280. Fuel Cell Technology. (3) Prerequisite(s): ETME 3143 or equivalent or permission of instructor; and Engineering major or minor.

Basic concepts and principles of fuel cell technologies, including chemistry, thermodynamics, electrochemistry, cell components and operating conditions fuel cell systems.

ENER 4285. Applied Noise and Vibration Control. (3) Prerequisite(s): ETME 3113 and ETGR 3171 with grades of C or above; and Engineering major or minor. Laplace transformation method for solution of differential equations. Review of Newton's 2nd Law of Motion. Solution to the free vibration problem both with and without damping. Introduction to acoustics and the one dimensional solution to the wave equation. Noise sources and mechanics of noise generation. System design for noise and vibration minimization. Methods of noise and vibration remediation.

ENER 4290. Advanced Instrumentation and Controls. (3) Cross-listed Course(s): ENER 5290. Prerequisite(s): ELET 2241, and Engineering major or minor. Methodologies for measurement, analysis, and control of physical components of conventional and renewable energy conversion and storage systems.

English (ENGL)

ENGL 2014. Topics in Writing. (1 to 3) (W) Offers instruction and practice in special types of writing, such as research or legal writing, that are not included in other writing courses. In addition, some sections may be designed for students who need strengthening of composition skills, or may offer instruction in various aspects of effective writing. ENGL 2014 *may not be used* toward the requirements for the English major. The *maximum hours of credit* allowed are six for ENGL 2014 or ENGL 2015, or for ENGL 2014 and ENGL 2015 together.

ENGL 2015. Topics in Writing. (1 to 3) (W) 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 or ENGL 2014, or for ENGL 2015 and ENGL 2014 together.

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) (W) 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 2052. Topics in English - Oral Communication. (3) (O) Designed to offer topics of general interest not included in other courses. *May be repeated for credit with permission of department.* Fulfills General Education oral communication goal.

ENGL 2053. Topics in English - Writing Intensive & Oral Communication. (3) (O,W) 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 and oral communication 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 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 2090. Topics in English. (3) Special topics not included in other courses. *May be repeated for credit with change of topic.*

ENGL 2091. Topics in English - Writing Intensive. (3) (W) Special topics not included in other courses. *May be repeated for credit with change of topic.*

ENGL 2092. Topics in English - Oral Communication. (3) (O) Designed to offer topics of general interest not included in other courses. *May be repeated for credit with permission of department.*

ENGL 2093. Topics in English - Writing Intensive and Oral Communication. (3) (O,W) Designed to offer topics of general interest not included in other courses. *May be repeated for credit with permission of department.*

ENGL 2100. Writing About Literature. (3) (W) Prerequisite(s): English major or minor, or Education major. Combined practice in writing and study of literature, emphasizing writing processes including revision.

ENGL 2101. Masterpieces of British Literature I. (3) An introduction to British Literature written before 1800. The course also provides backgrounds in the society and culture of the Middle Ages, the Renaissance, and the Age of Reason.

ENGL 2102. Masterpieces of British Literature II. (3) An introduction to masterpieces of British Literature written since 1800. The course also provides backgrounds in the society and culture of the Romantic, Victorian, and Modern periods.

ENGL 2103. Masterpieces of Modern Fiction. (3) Readings in selected novels and short stories written since 1850.

ENGL 2104. Major American Writers. (3) Introductory readings from six to eight authors, approximately half from the 19th century and half from the 20th century, both poetry and prose.

ENGL 2105. Introduction to Poetry. (3) (W) Representative poems and poets, drawn from several literary periods that introduce students to several poetic genres, to varied treatments of universal themes (such as love, death, disappointment, joy), and to various ideas about poetic imaginations.

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) (W) 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 2114. Learning Community Seminar. (1) Prerequisite(s): Acceptance into English Learning Community. Educational forum for activities of the English Learning Community. Students will devise and complete assignments relating to their cultural and intellectual activities. *May be repeated for credit up to 3 credits*. *Graded on a Pass/No Credit basis.*

ENGL 2116. Introduction to Technical Communication. (3) (W) 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 2125. Imagined Worlds: Creative Writing Laboratory. (3) In an "experimental" classroom laboratory for creative writers, students learn basic methods, theories, terminology, and approaches to the art of creative writing.

ENGL 2126. Introduction to Creative Writing. (3) (W) Introduction to creative writing, including both poetry and fiction writing, assuming little or no previous creative writing experience.

ENGL 2127. Introduction to Poetry Writing. (3) An introductory course for those with little experience in reading, writing, and critiquing poetry. Students read and discuss poetry in an anthology and also be responsible for writing poems based on assigned formal strategies or themes and for bringing them to a workshop setting for group critique.

ENGL 2128. Introduction to Fiction Writing. (3) An introductory course for those with little experience in reading, writing, and critiquing fiction. Students read and discuss short stories in an anthology and also be responsible for writing stories based on assigned formal strategies or themes and bringing them to a workshop setting 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 2200. Contemporary Literature. (3) Introduction to trends in contemporary literature. Encourages creativity through scholarly engagement with the world of contemporary literature.

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. 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.

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 2403. British Literature Survey. (3) British literature from the Medieval period to the present. 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) (W) Special topics not included in other courses. *May be repeated for credit with change of topic.*

ENGL 3052. Topics in English - Oral Communication. (3) (O) Offers topics of general interest not included in other courses. *May be repeated for credit with permission of department.*

ENGL 3053. Topics in English - Writing Intensive and Oral Communication. (3) (O,W) 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 3100. Approaches to Literature. (3) (W) Introductory study and application of major critical approaches to literature, such as historical, psychological, mythological, and formalistic.

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. 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 3157. Twentieth Century Black American Literature: Prose. (3) Intensive study of selected black American 20th century writers of fiction and nonfiction, beginning with the Harlem Renaissance.

ENGL 3158. Gender and African American Literature. (3) Cross-listed Course(s): AFRS 3158. 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 2125, ENGL 2126, ENGL 2127, ENGL 2128, ENGL 2200, ENGL 2201, or ENGL 2202, or permission of instructor. Combines reading and discussion of published poetry with the writing of original creative works.

ENGL 3202. Intermediate Fiction Writing. (3) Prerequisite(s): ENGL 2125, ENGL 2126, ENGL 2127, ENGL 2128, ENGL 2200, ENGL 2201, or ENGL 2202, or permission of instructor. Combines reading and discussion of published fiction 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 3232. Early American Literature. (3) Origins of American literature, from Colonial times to Washington Irving, including such authors as Edwards, Taylor, Franklin, Crevecoeur, Freneau, and Brown.

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 3267. Vocabulary, Etymology, and Grammar. (3) Theoretical and practical exploration of vocabulary, etymology, and grammar for applications in teaching, writing, and editing in professional and technical arenas.

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) (W) Special topics not included in other courses. *May be repeated for credit with change of topic.*

ENGL 4052. Topics in English - Oral Communication. (3) (O) Designed to offer topics of general interest not included in other courses. *May be repeated for credit with permission of department.*

ENGL 4053. Topics in English - Writing Intensive and Oral Communication. (3) (O,W) Designed to offer topics of general interest not included in other courses. *May be repeated for credit with permission of department.*

ENGL 4061. Approaches to Discourse. (3) Provides tools to understand and analyze discourse and pragmatics in order to analyze genres belonging to various discourse systems such as theater plays, classroom interaction, religious ritual, courtroom interaction, therapy sessions, and service encounters.

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 Literature, Media, and Culture. (3) Cross-listed Course(s): ENGL 5074. 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 for credit with change of topic.*

ENGL 4090. Major Authors. (3) The works, ideas, and life of one to three significant authors. *May be repeated one time using different author(s) and permission of department.*

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 4114. Milton. (3) A study of the major poems and selections from the minor works of Milton.

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 4118. British Renaissance Literature. (3) Readings of prose, poetry, and/or drama from the Renaissance period in England (16th and 17th centuries), which may include works by men and women writers such as Shakespeare, Milton, Donne, Lanyer, Wroth, and others.

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 4121. British Literature of the Restoration and 18th Century. (3) Representative poetry, prose, and/or drama from this period in British literary history, which may include works by men and women writers such as Pope, Dryden, Sheridan, Behn, Centlivre, and others.

ENGL 4122. British Victorian Literature. (3) Readings in British literature during the Victorian period in England. Texts studied may include selections from poetry, prose, and/or drama and men and women writers such as Dickens, Browning, Tennyson, Bronte, Eliot, and Wilde.

ENGL 4123. Modern British Literature. (3) Representative British literary texts (poetry, prose, and/or drama) that embody the cultural and literary developments of the 20th century.

ENGL 4132. British Drama to 1642, Excluding Shakespeare. (3) A survey of late-medieval and Renaissance drama in England.

ENGL 4139. Early American Literature. (3) Origins of American literature, from Colonial times to Washington Irving, including such authors as Edwards, Taylor, Franklin, Crevecoeur, Freneau, Brown.

ENGL 4140. 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, Melville.

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 4142. Modern American Literature. (3) Important writers and ideas of modern American literature, including such authors as Faulkner,

Eliot, Hemingway, Cummings.

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 4150. Poetry. (3) Poetry written in English, focusing on a particular period, nationality, or topic. *May be repeated for credit one time with permission of department.*

ENGL 4151. Drama. (3) Drama written in English, focusing on a particular period, nationality, or topic. *May be repeated for credit one time with permission of department.*

ENGL 4153. Fiction. (3) Fiction written in English, focusing on a particular period, nationality, or topic. *May be repeated for credit one time with permission of department.*

ENGL 4155. Pan-African Literature. (3) Introduction to significant Pan-African literature, emphasizing the oral tradition, selected works of major authors in the Caribbean and Africa, and the relationships of these traditions to American, British and other literary traditions. Works not originally written in English will be studied in translation.

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 4180. Theories of Technical Communication. (3) Prerequisite(s): ENGL 2116. Rhetorical, psychological, and anthropological theories that underscore the interrelations of written, graphic, and digital communication within technical and rhetorical contexts.

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. 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) (W) 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) (W) Cross-listed Course(s): ENGL 5201. An overview of the issues, opportunities, and challenges of teaching multiethnic literature in middle and secondary school settings.

ENGL 4202. Advanced Poetry Writing. (3) (W) Prerequisite(s): ENGL 2125, ENGL 2126, ENGL 2127, ENGL 2200, ENGL 2201, ENGL 2202, or permission of instructor. Further study of and practice in the writing of poetry. *May be repeated for credit one time with permission of department.*

ENGL 4203. Advanced Fiction Writing. (3) (W) Cross-listed Course(s): ENGL 5203. Prerequisite(s): ENGL 2125, ENGL 2126, ENGL 2128, ENGL 2200, ENGL 2201, ENGL 2202, or permission of instructor. Further study of and practice in the writing of fiction. *May be repeated for credit one time with permission of department.*

ENGL 4204. Expository Writing. (3) (W) Writing of essays, criticism, and various forms of exposition.

ENGL 4206. Writing Creative Nonfiction. (3) (W) Cross-listed Course(s): ENGL 5206. Prerequisite(s): English major or minor; and ENGL 2125, ENGL 2126, ENGL 2127, ENGL 2128, ENGL 2200, ENGL 2201, or ENGL 2202, or permission of instructor. Combines the reading and discussion of published creative nonfiction with the writing of original creative works.

ENGL 4207. Writing Young Adult Fiction. (3) (W) 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 4208. Poetry Writing Workshop. (3) (W) Prerequisite(s): ENGL 2125, ENGL 2126, ENGL 2127, ENGL 2200, ENGL 2201, ENGL 2202, or permission of instructor. Designed for advanced writers of poetry. Focuses primarily on student work and peer criticism of it. *May be repeated for credit one time with permission of department.*

ENGL 4209. Fiction Writing Workshop. (3) (W) Prerequisite(s): ENGL 2125, ENGL 2126, ENGL 2128, ENGL 2200, ENGL 2201, ENGL 2202, or permission of instructor. Designed for advanced writers of fiction. Focuses primarily on student work and peer criticism of it. *May be repeated for credit one time with permission of department.*

ENGL 4211. Chaucer and Medieval Literature. (3) Readings that focus on the works of Chaucer, including *The Canterbury Tales,* and other works from the medieval period in England, which may include *Troilus and Crisedye* and various dramatic texts.

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 4263. Linguistics and Language Learning. (3) Readings in, discussions of, and application of linguistically oriented theories of language acquisition, directed toward gaining an understanding of language-learning processes and stages.

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) (W) 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) (W) 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) (W) 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) (W) Explores how identities are performed in textual and digital media.

ENGL 4274. Visual Rhetoric. (3) (W) 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) (W) 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) (0) Prerequisite(s): English major or minor; and ENGL 4202, ENGL 4203, ENGL 4208, 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) (W) 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 4405. Literacy and Language. (3) Exploration of how language and literacy can be effectively taught to adolescents. Topics include: composing strategies and the effects of new media on literacy practices.

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 work 8-10 hours (3 hours credit) or 16-20 hours (6 hours credit) per week in a placement arranged by the Internship Coordinator. *May be repeated for credit one time; only three credit hours may be applied to the English major; three additional hours may be counted as a University elective.*

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 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 1201. Introduction to Engineering Practices and Principles I. (2) Prerequisite(s): College of Engineering major. Pre- or Corequisite(s): MATH 1241. 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 1241. Engineering Analysis. (3) Prerequisite(s): Engineering major and an appropriate eligibility level of mathematics placement, MATH 1103 with grade of C or above, or placement by the department. Elementary functions, derivatives and their applications in engineering problems, introduction to definite integrals in solving engineering problems. May not be taken for credit if credit for MATH 1241 has been given.

ENGR 3095. Leadership Academy Capstone. (0) Prerequisite(s): Admittance into the Leadership Academy program and Engineering major or minor. Participants apply leadership, teamwork, ethical decision-making, communication, and strategic planning principles learned during prior semester 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.*

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 3290. Fundamentals of Engineering Review. (1) Prerequisite(s): Senior standing and Engineering major or minor. Review of the basic engineering and science material covered on the Fundamentals of Engineering examination, the first step toward professional licensure. *Graded on a Pass/No Credit basis.*

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, cultural diversity, 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.*

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 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 2010. National Parks: Science Behind the Scenery. (3) (W) 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 2030. Near-Space Balloon Exploration. (2) Students in this course design, build, and launch their own near-space capsule on a weather balloon, 15-20 miles into the stratosphere at the very edge of space. Students learn about the composition and conditions of the atmosphere and near-space environment, how to engineer a vehicle for that environment, take pictures and meteorological data during the flight, track the capsule with GPS, and recover the capsule on a parachute.

ESCI 2101. The Environmental Dilemma. (3) Nature, causes, and responses to major environmental problems.

ESCI 2200. Introduction to Earth Sciences Research. (3) Pre- or Corequisite(s): ESCI 1101, GEOL 1200, and GEOL 1200L. Basic techniques common to research in all of the earth sciences. Research design and organization, utilization of literature resources, and the use of quantitative methods.

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 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, 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) (W) Cross-listed Course(s): GEOG 3190. Prerequisite(s): ESCI 1101 or BIOL 2120. 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 1101 or GEOL 1200. 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 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 3501. Earth Sciences Cooperative Education Seminar. (1) Required course for earth sciences cooperative education students in each semester following a work assignment for presentation of earth sciences reports on the co-op learning experience.

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 4005. Engineering Geology. (3) Prerequisite(s): GEOL 1200 and GEOL 1200L, or permission of instructor. the application of geologic principles, techniques, and data to problems in the technology and use of earth materials.

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. Atmospheric, soils, and geologic aspects of surface and ground water processes. Three lecture hours and one three-hour lab per week.

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) (O,W) Cross-listed Course(s): GEOG 5190. Prerequisite(s): ESCI 1101. 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, GEOL 3115, GEOL 3124, 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) 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 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 4233. Geoenvironmental Site Characterization. (4) Prerequisite(s): Earth Sciences, Geology, and M.A. Geography majors: ESCI 4140 or 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.

ESCI 4600. Earth Sciences Seminar. (1) (0) 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 Sciences. Coursework consists of a series of independent and group oral presentations. The seminar meets weekly for two hours. *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 2105. Plan Reading and Quantity Takeoff. (3) Prerequisite(s): ETCE 1104 and Engineering major or minor. Pre- or Corequisite(s): MATH 1103. Review and interpretation of construction drawings. Calculation of estimated quantities from construction drawings using both manual and electronic means. Focus on drainage, pavement, foundation, structural, floor, roof, and wall systems.

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. Pre- or Corequisite(s): ETGR 2102. An introduction to basic techniques to evaluate structural materials commonly used in the civil and construction fields.

ETCE 2221. Construction Means and Methods. (3) Prerequisite(s): ETCE 2105, PHYS 1101, and Engineering major or minor. 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.

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 AAS degree; 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) (W) 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) (W) 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) (W) 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): ETCE 2410, PHYS 1102, 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) (W) 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 4143. Water and Wastewater Systems. (3) Prerequisite(s): ETCE 3242; CHEM 1111 or CHEM 1251; and Engineering major or minor. Study of water supply, treatment, and distribution and liquidwaste disposal systems.

ETCE 4143L. Environmental Laboratory. (1) (W) Pre- or Corequisite(s): ETCE 4143 and Engineering major or minor. Laboratory on the analysis of water and sewage and problems related to environmental control. Three laboratory hours per week.

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) (W) 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 4251L. Asphalt Mixtures Laboratory. (1) (W) Pre- or Corequisite(s): ETCE 4251 and Engineering major or minor. Study of physical properties of asphalt, of aggregates and their combinations, principles and practice in the design, construction and control of asphalt mixtures; laboratory tests for asphalts, aggregates, and mixture design, including specimen preparation and stability evaluation. Three laboratory hours per week.

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) (O,W) 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.

Electrical Engineering Technology (ETEE)

ETEE 1101. Electronics Lab I. (1) Pre- or Corequisite(s): ELET 1211. Experiments that support the concepts and practices covered in ELET 1211. Three laboratory hours per week.

ETEE 1201. Electronics Lab II. (1) Pre- or Corequisite(s): ETEE 1223 and ETEE 1213. Experiments that support the concepts and practices covered in ETEE 1223 and ETEE 1213. Three laboratory hours per week.

ETEE 1213. Digital Circuits I. (3) Prerequisite(s): ELET 1211. An introductory course in digital concepts, number systems, logic gates, Boolean algebra and combinational logic. Introduction to logic programming. Introduction to digital circuit technologies.

ETEE 1223. AC Circuit Analysis. (3) Prerequisite(s): ELET 1211. Corequisite(s): MATH 1103. This course introduces AC electricity with an emphasis on circuit analysis, measurements, AC principles, circuit analysis laws and theorems, components and test equipment operation.

ETEE 2101. Electronics Lab III. (1) Pre- or Corequisite(s): ETEE 2113 and Engineering major or minor. Experiments that support the concepts and practices covered in ETEE2113 (Electronic Devices): Introduction to semiconductor based devices with an emphasis on analysis, selection, biasing and applications in power supplies, small signal amplifiers, and switching and control circuits. Three laboratory hours per week.

ETEE 2113. Electronic Devices. (3) Prerequisite(s): ETEE 1223, MATH 1103, and Engineering major or minor. This course is an introduction to semiconductor-based devices such as diodes, bipolar transistors, FETs, thermistors, and related components. Emphasis is placed on analysis, selection, biasing, and applications in power supplies, small signal amplifiers, and switching and control circuits.

ETEE 2122. Electronic Drafting and Design. (2) Prerequisite(s): ETEE 1223 and Engineering major or minor. Corequisite(s): ETEE 2113. Introduction to computer-aided drafting (CAD) with an emphasis on application in the electronics field. Topics include: electronics industry standards (symbols, schematic diagrams, layouts); drawing electronic circuit diagrams; electronic drafting practices and components such as resistors, capacitors, and ICs. Topics include: editing, screen capturing, and cutting/pasting into reports.

ETEE 2133. Digital Circuits II. (3) Prerequisite(s): ETEE 1213 and Engineering major or minor. Design and application of sequential circuits including flip-flops, counters, registers, and their interactions as state machines. Introduction to the architecture of microprocessors and digital signal processing.

ETEE 2143. Introduction to Electrical Power Systems. (3) Prerequisite(s): ETEE 1223 and Engineering major or minor. The basic principles of electric power systems, including transmission lines, generator and transformer characteristics, and fault detection and correction. Emphasis is placed on circuit performance analysis in regards to voltage regulation, power factor, and protection devices.

ETEE 2201. Electronics Lab IV. (1) Pre- or Corequisite(s): ETEE 2213 and Engineering major or minor. Experiments that support the concepts and practices covered in ETEE 2213. Introduction to microprocessor architecture and microcomputer systems, including memory and input/output interfacing, assembly language programming, bus architecture, bus cycle types, I/O systems, memory systems, and interrupts.

ETEE 2213. Introduction to Microprocessors. (3) Prerequisite(s): ETEE 1213 and Engineering major or minor. Introduction to microprocessor architecture and microcomputer systems, including memory and input/output interfacing, assembly language programming, bus architecture, bus cycle types, I/O systems, memory systems, and interrupts.

ETEE 2233. Introduction to Computer Networks. (3) Prerequisite(s): ETEE 1213 and Engineering major or minor. The fundamentals of local area networks and their operation in business and computer environments is covered, including the characteristics of network topologies, system hardware (repeaters, bridges, routers, gateways), system configuration, and installation and administration of the LAN.

ETEE 2243. Introduction to Control Systems. (3) Prerequisite(s): ETEE 1213, ETEE 1223, and Engineering major or minor. The fundamental concepts of control, systems, sensors, actuator, and associated peripheral devices are covered, including rotating machine theory, ladder logic, electromechanical and solid state relays, motor controls, pilot devices, and PLC (programmable logic controllers), programming and networking.

ETEE 3124. Analysis of Linear Networks II. (4) Prerequisite(s): ETEE 3133 with grade of C or above, and Engineering major or minor. Corequisite(s): ETGR 3171. Circuit analysis utilizing network theorems and techniques in the frequency domain. 2nd order responses. Two port network analysis and transfer functions. Bode plots; transformers and filter applications; introduction to Fourier analysis. Application of simulation software for circuit analysis.

ETEE 3133. Analysis of Linear Networks I. (3) Prerequisite(s): ETEE 1223 or AAS degree. Corequisite(s): MATH 1121 or ETGR 3171; Junior or Senior standing; and Engineering Technology major. Resistive circuits; current and voltage sources; Kirchoff's laws, network theorems, RC and RL circuits; waveform analysis and synthesis; time domain circuit analysis; 1st order natural and forced responses; Laplace Transform fundamentals. Circuit transformations. Intro to frequency domain circuit analysis. Application of simulation software for circuit analysis.

ETEE 3153. ELET Laboratory V. (1) (W) Prerequisite(s): and

Engineering major or minor. Corequisite(s): ETEE 3133 and ETEE 3183. Experiments which support concepts and practice covered in ETEE 3133 and ETEE 3183. Three laboratory hours per week.

ETEE 3156. ELET Laboratory VI. (1) (W) Prerequisite(s): and Engineering major or minor. Corequisite(s): ETEE 3124. Experiments with support concepts and practice covered in ETEE 3124. Three laboratory hours per week.

ETEE 3183. Digital Logic Design. (3) Prerequisite(s): ETEE 1213 or AAS degree; Junior or Senior standing; and Electrical Engineering Technology major. Design of combinational and sequential digital logic circuits. Minimization methods and state assignment techniques. Circuit implementation using MSI, LSI, and programmable circuits. Introduction to computer architecture.

ETEE 3211. Active Networks I. (3) Prerequisite(s): ETEE 3124 with grade of C or above; ETGR 3171; and Engineering major or minor. Rectifiers; amplifiers analysis; transistor biasing; small signal models; feedback amplifier analysis; amplifier frequency response.

ETEE 3212. Active Networks II. (3) Prerequisite(s): ETEE 3211 with grade of C or above; and Engineering major or minor. Amplifier frequency response (continued); feedback amplifier frequency response; operational amplifiers and applications.

ETEE 3213. Industrial Electronics. (3) Prerequisite(s): ETEE 3124 and Engineering major or minor. Pre- or Corequisite(s): ETEE 3211. Powerdiodes, bipolar power transistors, thyristors, power MOSFET's and their circuit applications to industrial problems.

ETEE 3214. Operational Amplifiers with Applications. (3) Prerequisite(s): ETEE 3211 and Engineering major or minor. Idea OP-AMP analysis, practical OP-AMP considerations, linear OP-AMP circuits, nonlinear OP-AMP circuits, practical applications.

ETEE 3222. Automatic Controls. (3) Pre- or Corequisite(s): ETEE 3212 and Engineering major or minor. Automatic control concepts; mathematical models; control system components; transient and frequency response; control system design.

ETEE 3230. Electronic Communications. (3) Pre- or Corequisite(s): Senior standing and Electrical Engineering Technology major; or permission of department. This course covers basic principles and concepts of modern communication systems. Topics include: systems, signals, modulations, transmission, reception and networks.

ETEE 3240. Fiber Optics Systems. (3) Pre- or Corequisite(s): Senior standing and Electrical Engineering Technology major; or permission of department. Introduction to optical fiber communications systems. Review of ray and wave optics. Fundamentals of amplitude, frequency, and digital modulation/demodulation. Optic fiber waveguides. Light sources and detectors. Components, systems, and networks.

ETEE 3255. ELET Laboratory VII (Computer Emphasis). (1) (W) Prerequisite(s): Engineering major or minor. Corequisite(s): ETEE 3211. Experiments which support concepts and practice covered in ETEE 3211. Three laboratory hours per week.

ETEE 3257. ELET Laboratory VII (Electronics Emphasis). (1) (W) Prerequisite(s): and Engineering major or minor. Corequisite(s): ETEE 3211. Experiments which support concepts and practice covered in ETEE 3211. Three laboratory hours per week.

ETEE 3260. Opto-Electronic Communications Laboratory. (1) (W) Corequisite(s): ETEE 3230, ETEE 3240, Senior standing, and Engineering Technology major; or permission of department. Opto-electronic Communications system measurements, instrumentation, and applications. Experiments support concepts and practice covered in ETEE 3230 and ETEE 3240. .

ETEE 3261. Industrial Instrumentation. (3) Prerequisite(s): ETEE 3124 and Engineering major or minor. Pneumatic and electrical sensors and transducers used for measuring physical processes, such as temperature, pressure, and flow rate; selection criteria; standards and calibration.

ETEE 3275. Integrated Circuit Applications. (3) Prerequisite(s): ETEE 3183 and Engineering major or minor. Study of the external characteristics of digital and analog integrated circuits. Applications of these circuits in digital systems. Design constraints and considerations due to device limitations. Device selection based upon application requirements.

ETEE 3281. Computer Design. (3) Prerequisite(s): ETEE 1213 or AAS degree; Junior or Senior standing; and Engineering Technology major. Corequisite(s): ETEE 3183. Organization and design approaches for computer network systems. LAN design, hardware and software considerations, network operating systems, TCP/IP fundamentals.

ETEE 3284. Design of Real-Time Systems. (3) Prerequisite(s): ETEE 3285 and Engineering major or minor. Pre- or Corequisite(s): ETEE 3281. Characteristics and applications of real-time computer systems, especially as applied to process control, monitoring, and data collection; the computer as a part of the total system, programming for real-time applications; reliability and maintainability; effects of downtime.

ETEE 3285. Assembly-Language Programming. (3) Prerequisite(s): ETEE 1213 or AAS degree; Junior or Senior standing; and Engineering Technology major. Corequisite(s): ETEE 3183. Programming methodology and assembly language programming for the MC6800 series microprocessors.

ETEE 3286. Microcomputer Applications. (3) Prerequisite(s): ETGR 2122 or AAS degree; Junior or Senior standing; and Engineering Technology major. Applied programming of microcomputers for engineering applications using Java. Object-oriented program design methods, Graphical user interfaces for data input and output, computer graphics, and computer animation.

ETEE 3641. Senior Design Project. (1) (O,W) Prerequisite(s): Senior standing and Electrical Engineering Technology major; or permission of department. A senior design project with a topic agreed to by student and instructor. Course builds upon technology coursework and professional topics seminar. Topics include: project planning design, construction, test documentation, and oral presentation of results.

Fire and Safety Engineering Technology (ETFS)

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) Prerequisite(s): Engineering major or minor. 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 1252. Fire Protection and Safety Law. (3) Prerequisite(s): Engineering major or minor. 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 2126. Fire Investigation and Forensics. (3) Prerequisite(s): Engineering major or minor. 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 2132. Building Construction for Fire Protection. (3) Prerequisite(s): Engineering major or minor. 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 2230. Hazardous Materials. (3) Prerequisite(s): Engineering major or minor. 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 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 Dynamics. (3) Prerequisite(s): ETFS 2264 and Engineering major or minor. The principles of fire chemistry, physics, and mechanisms that control enclosure fires. Topics include: basic principles of fluid mechanics, thermodynamics, heat transfer, and combustion, as far as those subjects relate to fire dynamics; ignition of liquids and solids; flame spread over liquid and solid surfaces and through porous fuel beds; burning rate; diffusion flames and plumes; heat release rate, fire growth and spread, compartment fire temperatures, combustion products; and compartment fire phenomena.

ETFS 3103L. Fire Dynamics Lab. (1) (W) Pre- or Corequisite(s): ETFS 3103 or permission of department; and Engineering major or minor. Provides instruction and hands-on and/or virtual laboratory experience in combination with computer simulations to illustrate the concepts related to fire science, behavior and dynamics discussed in ETFS 2264 and ETFS 3103. Students get experience with standard fire tests, state-of-the-art measurements, and other activities that enhances their understanding of fire behavior and fire/explosion protection systems.

ETFS 3113. Fire Safety in the Built Environment. (3) (W) 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) Prerequisite(s): Engineering major or minor. 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) Prerequisite(s): Engineering major or minor. 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 3144. Active Fire Protection. (3) Prerequisite(s): Engineering major or minor. 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) A seminar course that introduces the student to the training needs assessment, design, and delivery skills needed to competently implement industrial training programs.

ETFS 3183. Fire Safety Engineering Problem Analysis. (3) Prerequisite(s): ETFS 3103 and Engineering major or minor. Methods of solving fire safety engineering problems. Topics include: enclosure fire radiation heat transfer calculations; calculations of vent flows in enclosure fires; estimating ignition, flame spread, and heat release rate

properties of materials on the basis of experimental data; smoke filling of enclosures; and conduction heat transfer through fire protective materials.

ETFS 3233. Introduction to Performance-Based Fire Safety. (3) Prerequisite(s): ETFS 3103 and Engineering major or minor. An overview of the relevant performance-based fire protection engineering tools and skills, and presents the basic concepts and a systematic approach for performance-based fire safety design. The tools can also be used in the investigation and reconstruction of fire incidents.

ETFS 3242L. Fire Testing and Measurement Lab. (1) (W) Prerequisite(s): Senior standing and Fire and Safety Engineering Technology major in Fire Protection concentration. Provides students with opportunities in learning current fire testing and measurement methods and instrumentations, and conducting research to tackle fire safety related real-world problems. Students are afforded unlimited possibilities for learning and achievement.

ETFS 3283. Fire Hazard Analysis. (3) Prerequisite(s): ETFS 3103 and ETME 3244, or permission of department; and Engineering major or minor. Elements of quantitative fire hazard analysis are discussed. Applications of deterministic tools for fire hazard analysis are reviewed. Simple engineering calculations and various types of computer models are presented, and their use for predictions of fire conditions and people evacuation are studied, using examples.

ETFS 3344L. Introduction to Structural Fire Safety Laboratory. (1) (W) Pre- or Corequisite(s): ETFS 3103, ETME 3123, and Engineering major or minor. Provides overall instruction and hands-on experience with fire science related to the material discussed in the Introduction to Structural Fire Safety course. The objective is to expose students to structural fire experiments such as standard structural fire tests and state-of-the-art measurements, and thus enhance their understanding of structural fire behavior of materials.

ETFS 3400. Practicum. (1 to 4) Prerequisite(s): Junior or Senior standing, Engineering major or minor, cumulative 2.2 GPA, and the approval of FSET program faculty. 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 3611. Professional Leadership Seminar. (1) (O,W) Prerequisite(s): Engineering major or minor. Provides a framework of executive-level competencies by focusing primarily on areas and issues of personal effectiveness. The issue of command perspective vs. a first line fire fighter perspective are examined. The course includes case study analysis, role-playing and experiential activities. Students will develop desirable goals in the areas of their professional, personal community, and family life. Course Topics include: leadership, multiple roles, decision skills, influencing leaders, coaching and mentoring, and effective use of personal computing.

ETFS 3800. Independent Study. (1 to 3) Prerequisite(s): Junior or Senior standing, Engineering major or minor, cumulative GPA of 2.2, and approval of FSET 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): Engineering major or minor. 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. (1) 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 4243. Research Methodology. (3) (O,W) Prerequisite(s): Engineering major or minor. 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) (O,W) 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 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 4323. Advanced Fire Service Administration. (3) Prerequisite(s): Engineering major or minor. 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.

Engineering Technology (ETGR)

ETGR 1100. Engineering Technology Computer Applications. (3) 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, and the use of standard office applications in engineering applications. Also covered are topics introducing the use of scientific calculators and various engineering applications software.

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. 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 1104. Technical Drawing II. (2) Prerequisite(s): ETGR 1103. A continuation of ETGR 1103, this course introduces the student to advanced techniques of Computer-Aided Drawing (CAD). Topics include: three-dimensional wireframe, surface, and solid models, as well as rendering and generation of two-dimensional technical drawings from three-dimensional models. Upon completion of the course, students should be able to create, modify, and render three-dimensional models using modern computer-aided drawing tools such as AutoCAD.

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 2122. Technical Programming. (3) Introduces computer programming using a high level programming language as related to engineering technology. Topics include: input/output operations, sequence, selection, iteration, arithmetic operations, arrays tables, and pointers.

ETGR 2171. Engineering Analysis I. (3) Cross-listed Course(s): MATH 1121. Prerequisite(s): MATH 1103 with grade of C or above or MATH ACT 23; and Engineering major or minor. Technical problem solutions utilizing analytical geometry and differential calculus. Topics include: limits, differentiation, curvilinear motion, related rates, optimization problems, and transcendental functions.

ETGR 2230. Occupational Safety. (3) Prerequisite(s): Engineering major or minor. 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): ETGR 2171 or 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 3071. Engineering Technology Professional Seminar. (1) Prerequisite(s): Engineering major or minor. An introduction to the Department of Engineering Technology and Construction Management, The William States Lee College of Engineering, and UNC Charlotte. Addresses professional issues such as ethics, corporate culture, and

teamwork. Relies heavily on computer usage outside of class.

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 3223. Geometric Dimensioning & Tolerancing and Metrology. (3) Prerequisite(s): Knowledge of engineering graphics and machine shop practices; and Engineering major or minor. Study of the latest standard and methods available for the application of GD&T in interpretation and design of engineering drawings to assure form, fit and function while maintaining manufacturing efficiency. Study of and laboratory experiences with precision dimensional measuring instrumentation and machines. Two hours of lecture and three hours of laboratory per week.

ETGR 3272. Applied Numerical Methods. (3) Prerequisite(s): ETGR 2122, ETGR 3171, and Engineering major or minor. Familiarizes students with numerical methods for the solution of engineering problems using modern digital computer methods. Emphasizes applying these techniques to both Mechanical and Civil Engineering Technology problems. Exposes students to problem solution techniques using commercially available tools, along with developing their ability to construct specialty algorithms within the framework of these tools.

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, cultural diversity, 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 3643. Senior Design Project. (3) (O,W) Prerequisite(s): Senior Standing, Engineering major or minor, and permission of academic advisor. A capstone course in which individual students or teams propose and design a device, system, or process using senior level tools and abilities in their chosen disciplines; teamwork skills; instruction and writing practice in problem definition, design objectives, writing proposals and progress reports, creative problem solving, project planning, design evaluation, final formal technical reports and oral presentations.

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) (O,W) Prerequisite(s): ELET 3190 or ETME 3100; Engineering major or minor; Senior standing; completion of all lower-division courses and deficiencies; and permission of department. Pre- or corequisite(s) for Mechanical Engineering Technology majors: ETGR 3222; ETME 3113; ETME 3143; ETME 3150; ETME 3213; and ETME 3123L or ETME 4244L. 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) (O,W) 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): ETGR 2230; CHEM 1200 or above; MATH 1100 or above; Engineering major or minor; and Junior or Senior standing in the department. 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; PHYS 1101 or above; Engineering major or minor; and Junior or Senior standing in the department. 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; Engineering major or minor; and Junior or Senior standing in the department. 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 Engineering major or minor. 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.

Industrial Engineering Technology (ETIN)

ETIN 3103. Methods Analysis. (3) Prerequisite(s): Engineering major or minor. Analysis of work methods; a study of work measurement systems; regression techniques in formula construction; progress curves.

ETIN 3123. Production Control Systems. (3) Prerequisite(s): statistics and Engineering major or minor. Principles, analysis and design of production and inventory planning and control systems. Demand forecasting, production scheduling and control systems and introduction to CPM.

ETIN 3133. Quality Control. (3) Prerequisite(s): Engineering major or minor. Principles and applications of quantitative methods of quality control to design and production processes. Introduction to design of experiments, process control charts, Pareto charts, and other quality analysis tools for both service and manufacturing industries.

ETIN 3203. Plant Layout. (3) Prerequisite(s): ETIN 3103 and Engineering major or minor. Designing a plant or office with respect to material handling, machine location, auxiliary services, capital requirements, safety and personnel organization.

ETIN 3233. Occupational Safety. (3) Prerequisite(s): Engineering major or minor. Causes and prevention of industrial accidents. Hazardous processes and material. Design of accident prevention programs.

ETIN 3243. Occupational Health Technology. (3) Prerequisite(s): Engineering major or minor. Methodology and philosophy of evaluating and monitoring the work environment for human stresses and toxic substances which affect the health of the worker. Topics include: gases, vapors, fumes and dust; radio-activity hazards; occupational diseases; thermal stress; illumination and exhaust ventilation.

ETIN 3263. Human Factors. (3) Prerequisite(s): Engineering major or minor. Human capabilities and limitations affecting communications and response in man-machine systems. Physiological and psychological fundamentals; anthropometrics.

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 and ETME 1112 with grades 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; ETGR 2171, MATH 1121, or MATH 1241; and PHYS 1101 with grades 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 2156. Machine Shop Practices. (2) Prerequisite(s): ETGR 1103 and Engineering major or minor. Introduction to machine shop techniques and designing for machining with a combination of lectures and projects. Students learn design for machining guidelines, about specification of machining operations, and about shop measurement instruments and techniques.

ETME 2156L. Machine Shop Practices Laboratory. (1) Prerequisite(s): Engineering major or minor. Accompanying lab for ETME

2156.

ETME 2202. Introduction to Parametric Modeling. (2) Prerequisite(s): ETGR 1104 and Engineering major or minor. Introduces mechanical design techniques using computer based parametric modeling tools. Topics include: feature based solid modeling, design constraints, use of geometric dimensioning and tolerancing (GD&T), assemblies, mechanisms, animations, and design documentation via technical drawings. Upon completion of the course, students will be able to define solid models parametrically and generate the complementary engineering drawings.

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 3123. Strength of Materials. (3) Prerequisite(s): ETGR 2101 with grade of C or above, 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.

ETME 3123L. Stress Analysis Laboratory. (1) (W) Prerequisite(s): WRDS 1103 or WRDS 1104 with a grade of C or above; ETGR 1100L with a grade of C or above; and Engineering major or minor. Pre- or Corequisite(s): ETME 3123. Experiments illustrating stress-strain relationships in engineering materials and the use of brittle coating, photoelasticity and electrical-resistance strain gages.

ETME 3133. Fluid Mechanics. (3) Prerequisite(s): ETGR 2101 with grade of C or above, and Engineering major or minor. Pre- or Corequisite(s): ETGR 2171, MATH 1121, or MATH 1241. 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.

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 3150. Applied CAD Modeling and Simulation. (3) Prerequisite(s): ETME 1111 with grade of C or above; ETME 2102; ETME 3123; and Engineering major or minor. 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 motion studies, and the important distinctions between FEA results, theoretical results, and experimental results.

ETME 3163. Instrumentation and Controls. (3) Prerequisite(s): ETGR 2106 and Engineering major or minor. Introduction to instrumentation for measurement and control of physical variables, with emphasis on electronic systems. Review of basic circuit analysis, electrical instruments, sensors and measurement principles and a survey of automatic controls from a systems point of view.

ETME 3213. Machine Design I. (3) Prerequisite(s): ETME 2102; ETME 2130; ETME 3123; 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.

ETME 3223. Machine Design II. (3) Prerequisite(s): ETME 3213 and Engineering major or minor. A continuation of ETME 3213 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.

ETME 3232. Senior Design Project I. (2) (W) Prerequisite(s): ETME 3113; ETME 3133; ETME 3143; and Engineering major or minor. Co- or Prerequisite(s): ETME 3213 or permission. First of a two-semester course sequence in which each student proposes and implements a senior-level design project which demonstrates abilities as developed by the coursework taken thus far. Each student uses project planning techniques to complete a project proposal and plans and makes substantial progress toward implementation in the first semester and completes the project, including design evaluation during the second semester. One class hour and three lab hours per week.

ETME 3233. Parametric Model Applications. (3) Prerequisite(s): ETME 2202 and Engineering major or minor. The use of parametric modeling software as a design and analysis tool using software such as Solid Works. Topics include: advanced feature construction, creation of sheet metal components, configurations, linked information, and simulation methods.

ETME 3242. Senior Design Project II. (2) Prerequisite(s): ETME 3232

and Engineering major or minor. Pre- or Corequisite(s): ETME 3163. Second of a two-semester course sequence in which each student proposes and implements a senior-level design project which demonstrates abilities as developed by the coursework taken thus far. Each student uses project planning techniques to complete a project proposal and plans and makes substantial progress toward implementation in the first semester and completes the project, including design evaluation during the second semester. One class hour and three lab hours per week.

ETME 3263. Fluid Power. (3) Prerequisite(s): ETME 3133 and Engineering major or minor. Mechanical and fluid power and the conversion of one to the other. Components and system efficiencies including those consisting of cascaded components. Performance evaluation of such hydraulic components as pumps, motors, valves and metering devices. Viscosity, bulk modulus, noise, optimum performance and system design are considered.

ETME 3283. Modern Techniques in Energy Conservation and Utilization. (3) Prerequisite(s): ETME 3143 or permission of instructor; and Engineering major or minor. Survey of current topics that may include solar energy, basic nuclear reactor technology, ammonia-based Rankine cycle, absorption refrigeration cycle, heat pump cycle, techniques for energy conservation in new construction and techniques for retrofitting existing energy utilization systems.

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.

ETME 4244L. Thermal Fluids Laboratory. (1) (W) Prerequisite(s): WRDS 1103 or WRDS 1104. Pre- or Corequisite(s): ETME 3143. Laboratory experiments related to the areas of fluid mechanics and thermodynamics. Three hours of laboratory each week.

Manufacturing Engineering Technology (ETMF)

ETMF 3111. Manufacturing Processes. (3) Prerequisite(s): Engineering major or minor. Capabilities, limitations, and operating characteristics of families of machine tools and processes; casting, cutting, forming, joining, fabrication, and inspection machinery.

ETMF 3113. Fundamental of Optics. (3) Prerequisite(s): algebra, trigonometry, plane geometry, and physics; and Engineering major or minor. A phenomenological introduction to applied optics; interactions between light and materials; properties of light; lenses and mirrors; simple optical systems; interference and diffraction; introductions to optical fibers, lasers, and holography.

ETMF 3131. Computer Integrated Manufacturing (CIM). (3) Prerequisite(s): Engineering major or minor. Automated manufacturing systems involving computers to monitor vendor input, process variations, component selection and routing, and test and evaluation of products. Applications involving integration of computer aided design (CAD) systems with computer aided manufacturing (CAM) systems.

ETMF 3141. Industrial Applied Optical Systems. (3) Prerequisite(s): ETGR 3171 and Engineering major or minor. The applications of electro-optical technology in manufacturing and industrial systems is investigated. The fundamentals of applied optics, laser theory and semi-conductor optical devices will be reviewed.

ETMF 3141L. Applied Optical Systems Laboratory. (1) Prerequisite(s): Engineering major or minor. Corequisite(s): ETMF 3141. Applications of electro-optical technology in manufacturing systems. Laboratory experiments demonstrating the use of lasers in the following manufacturing and industrial applications will be performed: cutting, machining, welding, measurement, marking, and control of processes; machine vision systems, sorting, process control, and real-time quality control; bar code systems; optical character recognition; optical data transmission.

ETMF 3181. Digital Process Control. (3) Prerequisite(s): Engineering major or minor. Applications and programming of microprocessors and programmable controllers for control of manufacturing processes. Interfaces with sensors, actuators, and computer systems. Includes classroom and laboratory demonstrations.

ETMF 3211. Topics in Precision Manufacturing. (3) Prerequisite(s): Engineering major or minor. Senior seminar in selected areas of modern production of both conventional and micro-miniaturized products; surface mount technology for electronic components; manufacturing in the clean room environment; metrology; manufacture of micro-miniature mechanical systems; vacuum coating and plating systems; systems for automatic process control and product inspection.

ETMF 3251. CIM Laboratory. (2) (W) Prerequisite(s): Engineering major or minor. Experiments with computer control of processes, including numerical control and robotics. Measurement of physical variables for monitoring, controlling, and testing production operations. Application of microprocessors and microcomputers to system control and status reporting. One class hour, three lab hours per week.

Entrepreneurship (ENTR)

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) Pre- or Corequisite(s): ENTR 3276. 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) Pre- or Corequisite(s): ENTR 3276. 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 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): Pre-Kinesiology 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. Continuation of EXER 2168. May be taken as an equivalent of BIOL 2274.

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-Kinesiology or Pre-Nursing major. The accompanying lab to EXER 2169. One laboratory period of three hours a week.

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 2290. Emergency Medical Response. (3) Prerequisite(s): Exercise Science major; open to all students during Summer Session. 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). There is a $20 course fee.

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 2298. Applied Kinesiology. (3) Prerequisite(s): EXER 2168 and EXER 2168L, or BIOL 2273 and BIOL 2273L; and Exercise Science major. The study of musculoskeletal anatomy and how it relates to normal function of the human body.

EXER 2299. Medical Terminology. (3) Students learn proper medical and scientific terminology usage within the context of human anatomy and 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. 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 3260. Nutrition for the Physically Active. (3) Prerequisite(s): Exercise Science major. 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. 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 3281. Exercise Physiology: Principles and Application. (3) (W) Prerequisite(s): Exercise Science major. Application of principles with laboratory experiences and the development of writing strategies appropriate to the domain of exercise physiology. Enhances the lecture material presented in EXER 3280.

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 and EXER 3281 with grades 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) (W) Prerequisite(s): EXER 3280 and EXER 3281 with grades of C or above. Corequisite(s): EXER 3286. Application of principles using laboratory experiences and the development of writing strategies and skills appropriate to the domain of exercise testing. Industry standard data collection instruments, methods, and protocols are used. Enhances the lecture material 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 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 2290 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): 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 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. 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 3260 and EXER 4286. 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 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) (W) 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) (W) 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 4292. Organization and Administration of Athletic Training. (3) (O,W) 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 4490. Exercise Science Internship. (9) Prerequisite(s): EXER 2290 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.

FARS 3051. Topics in Farsi. (1 to 3) Study of Farsi language, culture, or literature. *May be repeated for credit with change of topic.*

Film Studies (FILM)

FILM 2201. Introduction to Film. (3) Introduction to elements of film needed for analyzing and writing about film.

FILM 3050. Topics in Film. (3) (W) National film histories, film analysis, film criticism, film genres. *May be repeated for credit with change of topic.*

FILM 3051. Topics in Film. (3) National film histories, film analysis, film criticism, film genres. *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. Cinematography. (3) Prerequisite(s): FILM 3120 or permission of Film Studies Director and instructor. Builds on the knowledge of FILM 3120, honing camera, writing, and editing skills to produce a short film, narrative feature, documentary, experimental, or music video.

FILM 3220. Introduction to Screenwriting. (3) (W) 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. Intermediate Screenwriting: Feature Film. (3) (W) Prerequisite(s): FILM 3120, FILM 3220, or permission of Film Studies Director and instructor. Focus on developing a premise and outline of a story; crafting the plot and characters; and writing the screenplay in sequences. Analysis of the plot and storytelling techniques of a variety of feature films. Addresses writing comedy and writing for television. Assumes knowledge of script formatting and story structure.

FILM 3800. Directed Project in Film or Video. (1 to 3) Prerequisite(s): FILM 2201 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. Documentary Film Production. (3) Prerequisite(s): FILM 2201 and FILM 3120, or permission of the instructor. A history of documentary filmmaking, its influence on the production of knowledge, and the film strategies that guide and shape this influence. Based on this, students produce short documentary film work over the course of the semester.

FILM 4220. Film Festivals: Production and Theory. (3) Prerequisite(s): FILM 2201. Pre- or Corequisite(s): FILM 3120. Focus on the broad history of film festivals and the theory behind programming of films. Includes modules on promotion and marketing of festivals.

FILM 4221. Community-Based Film Production. (3) Prerequisite(s): FILM 2201 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 4410. Professional Internship in Film Studies. (1 to 6) Prerequisite(s): FILM 2201; 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 Studies. (3) Prerequisite(s): FILM 2201 and three courses at the 3000 or 4000 level in the Film Studies program. Survey of career options for Film Studies students (minor and/or certificate), directed professional development (preparation of resume and portfolio), and completion of a personal statement on their work in the Film Studies program. *Graded on a Pass/No Credit basis.*

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, priniciples, 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 3277. Legal Aspects of Insurance. (3) Prerequisite(s): FINN 3271. Provides an in-depth analysis of the impact that statutes, regulations and litigation have on risk management and insurance. Also examines the impact the courts have had on claims handling.

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 4275. Enterprise Risk Management. (3) Cross-listed Course(s): FINN 5275. Prerequisite(s): FINN 3271 with grade of C or above or permission of department chair. 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 4104. Assessment in the Teaching of K-12 Foreign Languages. (2) Cross-listed Course(s): FLED 5104. Prerequisite(s): MDSK 3100, MDSK 3151, MDSK 4210, MDLG 3130, or SECD 4140. Pre- or Corequisite(s): FLED 4200 and MDSK 4100L. Fosters Foreign Language Education teacher candidates' knowledge and skills of creating and implementing performance-based assessments in K-12 classrooms. Learning modules provide an overview of the major principles involved in foreign language assessment, focusing on both the theoretical and practical issues. Students practice creating, administering, and scoring assessments of interpretive, interpersonal, and presentational communication, as well as an Integrated Performance Assessment. They also practice analyzing data from such assessments, interpreting necessary changes in instruction based on those data, and providing student feedback.

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. (12) (O,W) 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 2200. French Civilization. (3) (W) 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 2050. Topics in Francophone Studies. (3) Analysis of a selected topic related to France or to the Francophone world. 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 1050. Special Approaches to the Study of French. (1 to 6) Placement Test preparation. *May be repeated for credit with change of topic.*

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 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) (W) 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) (O) 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 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.

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. The Location of Human Activity. (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.

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. (4) 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 2120. Geographic Information Systems: Survey of Applications and Techniques. (4) Fundamentals of GIS technology and how it is being applied in such diverse fields as planning, marketing, criminal justice, political science, and engineering. Students will learn how to collect, organize, analyze, and display spatial data obtained from sources such as address geocoding, GPS, and WWW sites. Each student will complete a series of lab exercises that illustrate the typical steps in a GIS project. Three lecture hours, one two-hour lab per week.

GEOG 2121. Introduction to Development Studies. (3) Cross-listed Course(s): INTL 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 2125. Business Applications of GIS. (3) Introduction to the uses of spatial data and the geographic information systems that handle them in basic business decision-making and research. Applications include geographic data presentation, consumer research, marketing, site selection and trade area analysis. Students are provided an introduction to key economic geography concepts, data availability, and experience executing GIS projects. This course is an acceptable prerequisite for GEOG 4120.

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) (O,W) 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) (O) 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. The City and Its Region. (3) Study of the regional system of cities in terms of their size, spacing, historical evolution, functional relationships, and future prospects.

GEOG 3102. Plant Geography. (3) 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 3110. 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.

GEOG 3115. Urban Transportation Problems. (3) (W) 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 3150. Manufacturing Geography. (3) Factors relating to the nature, locations and development of manufacturing industries. Emphasis upon classification of manufacturers, principal areas of manufacturing and the role of manufacturing in regional development.

GEOG 3161. Migration and Borders in a Global World. (3) Cross-listed Course(s): INTL 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): INTL 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 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) (W) 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. Internal Structure of the City. (3) 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) (W) 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 3265. Behavioral Geography. (3) (W) Behavioral approach to environmental decision-making, personal space, room and building geography, consumer behavior, territoriality, perception of wilderness and natural hazards, activity space, and communication biases.

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 3501. Geography Cooperative Education Seminar. (1) This course is required of geography cooperative education students in each semester following a work assignment for presentation of geography reports on the co-op learning experience.

GEOG 3605. Geography of Europe. (3) (W) Explores relevant issues in contemporary Europe. Through lecture and written work, examines current trends in European political unity, economic integration, national/ethnic conflict and environmental policy from a geographical perspective.

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 4040. Transportation Topics. (3) Prerequisite(s): Permission of department. Investigation of special topics in transportation including: transit systems, mobility and travel patterns, land use/transportation interface, air pollution, and information systems. .

GEOG 4101. Cartographic Techniques. (3) Prerequisite(s): GEOG 2102. Preparation of maps, figures, and charts at a professional level of competence. Techniques to be emphasized include desktop mapping, high resolution image-setting output, and color separation techniques which include computer separations.

GEOG 4102. Cartographic Design and Map Construction. (3) Design process and basic map construction techniques with particular emphasis on the graphic elements of map design, planning map design, creating visual hierarchies, the uses of color, and basic mechanical color separation.

GEOG 4103. Computer Programming for GIS Applications. (3) Cross-listed Course(s): GEOG 5103. Prerequisite(s): GEOG 2103 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) (W) 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 4130. Advanced Geographic Information Systems. (4) Prerequisite(s): GEOG 3120 or permission of instructor. Advanced GIS study with emphasis on (1) advanced skills for database development and management; (2) spatial analysis and modeling; and (3) Macro language programming and user interface design. Three lecture hours and a two-hour lab session each week.

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 4209. Small Town Planning. (3) 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) 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. (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) (W) 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 4260. Transportation Policy Formulation. (3) Prerequisite(s): Permission of department. Structure of transportation policy at federal, state, and local levels including policies concerning highway financing and investments, congestion, safety, and use and development, energy, transit, and the provision of inter-city services.

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 4270. Evaluation of Transportation Impacts. (3) Prerequisite(s): Permission of department. Methods and case studies for evaluating impacts and benefits of transportation investments including site-level impact analysis; project, corridor, and area scales; multi-modal evaluation and examination of mutually exclusive alternatives.

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 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.

GEOG 4405. Urban Field Geography. (3) Prerequisite(s): Six hours of urban-related undergraduate courses or permission of instructor. Intensive field studies of cities of the Carolinas, with specific emphasis on the Charlotte metropolitan area.

GEOG 4600. Geography Professional Seminar. (1) 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 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 2000. Topics in Geology. (1 to 4) Treatment of major topical issues in Geology. *May be repeated for credit with change of topic.*

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 2100. The Violent Earth. (3) Volcanoes, earthquakes, hurricanes, tornadoes, floods and other catastrophic natural phenomena with emphasis on causes, effects and human adjustments.

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. The Earth's Mineral Resources: Sustainability and the Environmental Impacts of Recovery. (3) Prerequisite(s): GEOL 1200.

The origin, distribution, consumption rates and environmental impacts of mining and processing the Earth's mineral resources. A significant portion of class lectures promote a deeper understanding of the current oil, gas and coal industries and their relationship to the world's energy production and use. The long-term sustainability of these energy systems is also discussed.

GEOL 3110. Minerals and Rocks. (3) Pre- or Corequisite(s): GEOL 1200 and GEOL 1200L. Formation processes, composition and identification of rocks and minerals in the earth's crust with important abundance or special use.

GEOL 3115. Mineralogy. (4) Prerequisite(s): GEOL 1200 and GEOL 1200L. Pre- or Corequisite(s): CHEM 1251 and CHEM 1251L, or permission of instructor. Identification, classification and description of minerals based on physical properties, crystallography, and chemical composition. Includes diagnostic techniques for identification of common ore and rock forming minerals. Three hours of lecture and one three-hour lab per week.

GEOL 3120L. Geochemistry Laboratory. (1) Pre- or Corequisite(s): GEOL 4175 or permission of instructor. Analytical methods and sample preparation techniques used by geochemists. One three hour meeting per week.

GEOL 3124. Sedimentology. (4) (W) 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) (O) 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 4120. Geologic Mapping and Interpretation. (4) Prerequisite(s): GEOL 3130 and GEOL 4100 or permission of instructor. Field and lab oriented study using principles of mineralogy, petrology and structural geology. Involves collection and resolution of field data, techniques of presenting data, development of geologic maps, and critical reviews of existing literature. Two hours of lecture, four hours of lab/field work per week.

GEOL 4125. Geologic Summer Field Camp. (6) Prerequisite(s): Junior or Senior standing and permission of instructor. Concentrated field investigation of geologic features. Data collection in the field, geologic mapping, report and map preparation and time management. Location of field camp will be specified each time course is offered.

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) (W) 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 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.

GEOL 4410. Applied Soil Science. (4) (O) Prerequisite(s): GEOL 3115, GEOL 3124, and 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 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 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) (O) 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) (W) 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 3651. Seminar: German Youth and Pop Cultures. (3) Prerequisite(s): GERM 2201, GERM 2202, GERM 3201, and GERM 3202; or permission of department. Study of authentic texts from young adult novels to rap lyrics to advance oral and written level of proficiency and cultural literacy. Conducted in German.

GERM 3660. Survey of German Film. (3) (O,W) Introduction to major movements in German film history. Conducted in English.

GERM 3661. Seminar: Current Events in Germany. (3) Prerequisite(s): GERM 2201, GERM 2202, GERM 3201, and GERM 3202; or permission of department. Study of German current events to advance oral and written level of proficiency and cultural literacy. Conducted in German.

GERM 3670. Seminar: German-American Culture for Business and

Engineering I (English). (3) (W) Introduction to German-American business culture taking into consideration the world of engineering. Conducted in English.

GERM 3671. Seminar: German-American Culture for Business and Engineering I (German). (3) Prerequisite(s): GERM 2201, GERM 2202, GERM 3201, and GERM 3202; or permission of department. Introduction to German-American business culture taking into consideration the world of engineering to advance oral and written level of proficiency and cultural literacy. Conducted in German.

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 3681. Seminar: German-American Culture for Business and Engineering II (German). (3) Prerequisite(s): GERM 2201, GERM 2202, GERM 3201, and GERM 3202; or permission of department. Personalized study of German-American business culture taking into consideration the world of engineering to advance oral and written level of proficiency and cultural literacy. Conducted in German.

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 4651. Advanced Seminar: Germany After 1945. (3) Prerequisite(s): GERM 2201, GERM 2202, GERM 3201, and GERM 3202; or permission of department. Study of post-war Germany through film, literature, music, and historical texts. Conducted in German.

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 4681. Advanced Seminar in German for Engineering. (3) Prerequisite(s): GERM 2201, GERM 2202, GERM 3201, and GERM 3202; or permission of department. Intensive practice in oral and written communication and advanced studies in German for engineers. Conducted in German.

GERM 4690. Senior Seminar in German. (1) Prerequisite(s): Four or more GERM courses at the 3000- or 4000-level or permission of department. 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.*

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.*

Greek (GREK)

GREK 1201. Elementary Ancient Greek I. (4) Beginning survey of elementary Ancient Greek grammar through selected readings.

GREK 1202. Elementary Ancient Greek II. (4) Prerequisite(s): GREK 1201 or equivalent. Completion of the survey of elementary Ancient Greek grammar; connected readings in elementary to intermediate Biblical and Attic prose.

GREK 3800. Directed Individual Reading. (1 to 3) Prerequisite(s): Permission of instructor. Individual work on an author or genre to be arranged with the instructor.

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 2124. Psychology of Adult Development and Aging. (3) Cross-listed Course(s): PSYC 2124. Prerequisite(s): PSYC 1101 with grade of C or above. 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 3132. Aging and Culture. (3) (W) Cross-listed Course(s): ANTH 3132. Examination of the processes of aging in various cultural contexts, with emphasis on the implications for understanding aging within American society. Application of anthropological theories and methods to the study of aging.

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. Senior Seminar and Field Experience in Aging. (3) (W) Prerequisite(s): completion of at least 12 credit hours in gerontology curriculum with grades of C or above, including GRNT 2100 and two primary electives (selected from GRNT 2124, GRNT 3115, GRNT 4110, and GRNT 4250). Capstone course for 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 seminar hours and six field placement hours per week.

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 4134. Families and Aging. (3) Cross-listed Course(s): SOCY 4134 and SOCY 4734. 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 4150. Older Individual and Society. (3) Cross-listed Course(s): GRNT 5150, SOCY 4150, and SOCY 5150. Study of the social and cultural context on the lives of aging individuals in American society. Includes a focus on expectations, social interactions, and psychological well-being in the context of retirement, caregiving, and health.

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 and WGST 4260. Position of older women in society and the particular problems of and issues for women as they age.

GRNT 4270. Intergenerational Relationships and Programs. (3) Exploration of the importance and consequences of intergenerational relationships and the range of programming currently available to encourage interaction between people of different ages.

GRNT 4280. The Experience of Dementia. (3) 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) 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 Occuring Retirement Communities (NORCS), as well as co-housing and intentional community options.

GRNT 4364. Elders and the Criminal Justice System (3) Cross-listed Course(s): CJUS 4364. Utilizes an interdisciplinary approach to examining the many ways in which elders interface with the criminal justice system. Topics include: the nature and extent of elderly crime, the criminal justice system response to older offenders, elders as participants in criminal trials, elders 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.*

Holocaust, Genocide, and Human Rights Studies (HGHR)

HGHR 2100. Introduction to Holocaust, Genocide, and Human Rights Studies. (3) Cross-listed Course(s): INTL 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): INTL 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): HIST 3003 and INTL 3174. 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.

HGHR 3800. Independent Study in Holocaust, Genocide, and Human Rights Studies. (3) Study of a special topic under supervision of a faculty member. *May be repeated for credit with change of topic.*

HGHR 4050. Topics in Holocaust, Genocide, and Human Rights Studies. (3) Study of a special topic. *May be repeated for credit with change of topic.*

Health & Medical Humanities (HHUM)

HHUM 2100. Introduction to Health & Medical Humanities. (3) Prerequisite(s): 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 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): Health & Medical Humanities minor. Pre- or Corequisite(s): HHUM 2100. 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): 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 4800. Health & Medical Humanities Portfolio Capstone. (3) Prerequisite(s): Health & Medical Humanities minor and HHUM 2100. Pre- or Corequisite(s): 15 credit hours of HHUM 3020, HHUM 3030, or equivalent. Students work 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 minor and other related coursework. Coursework typically includes portfolio preparation, written report, and an oral report.

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 1120. European History to 1660. (3) Political and cultural developments of Western Europe from the fourth century A.D. to the Age of Absolutism.

HIST 1121. European History Since 1660. (3) Cross-listed Course(s): INTL 2301. European history from the Age of Absolutism to the present.

HIST 1160. U.S. History to 1865. (3) American history from the earliest times to 1865.

HIST 1161. U.S. History Since 1865. (3) American history from 1865 to the present.

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) (O) Prerequisite(s): Entering Freshman or History Learning Community member, and permission of instructor. Seminar based on a historical theme, in which participants acquire academic and oral expression skills by co-researching and presenting the topic at hand.

HIST 2090. Topics in U.S. History. (3) (W) Discussion of a topic in U.S. history. *May be repeated with change of topic.*

HIST 2091. Topics in European History. (3) (W) Discussion of a topic in European history. *May be repeated with change of topic.*

HIST 2092. Topics in Non-Western History. (3) (W) Discussion of a topic in non-Western history. *May be repeated with change of topic.* Meets non-Western requirement.

HIST 2093. Topics in Comparative History. (3) (W) Discussion of a topic in comparative history. *May be repeated with change of topic.*

HIST 2094. Topics in Applied History. (3) (W) Discussion of a topic in applied history. *May be repeated 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 2110. Technology and Science in Society I: Before the Industrial Revolution. (3) The worldwide history of science and technology from the Stone Age to the steam engine, with particular emphasis on the Scientific Revolution of the 16th and 17th centuries. Examines the impact of scientific and technological change on society and the ways in which society shaped the development of science and technology. This course does not require a background in science or technology.

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 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 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 2200. Asian Civilization. (3) An investigation of the philosophical, religious, social, political and economic foundations of the great Asian civilizations. Emphasis will be placed on understanding those traditions that influence Asian societies today and a comparison of those traditions to Western traditions. Meets non-Western requirement.

HIST 2201. History of Modern Asia. (3) Cross-listed Course(s): INTL 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 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): INTL 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 INTL 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 2221. History of Greece. (3) A survey of Greek civilizations from

the Minoans to the end of the Hellenistic period in the 1st Century B.C. Topics may include: the Mycenaeans, the Dorian invasion, creation of Athenian democracy, the Delian league, Persian wars, and Alexander the Great.

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 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 2237. Nineteenth Century Europe, 1814 to 1914. (3) Discussion of the political developments in European history from the Congress of Vienna: liberalism, socialism, nationalism, imperialism and the diplomacy leading to World War I.

HIST 2240. Twentieth Century Europe, 1914 to the Present. (3) Discussion of the causes and results of World War I, rise of new governments, collapse of collective security, World War II and the postwar period.

HIST 2242. Eastern Europe After 1945. (3) The first half of this course examines the impact of Communism on Eastern Europe, including its effects on daily life, the economy and politics. The second half covers Eastern Europe's troubled transition after 1989, looking at the difficulties this region has faced while trying to create democratic governments and market economics.

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 2260. Britain to 1688. (3) An introduction to medieval and early modern British history, with an emphasis on institutional, cultural, and economic developments.

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 2271. Modern France (1774 to the Present). (3) A survey of the history of the nation of France from the reign of Louis XVI across the French Revolution and the Empire of Napoleon, the revolutions of 1830 and 1848, the Franco-Prussian War and Paris Commune, the new imperialism, and the world wars of the twentieth century, to its role in Europe and the wider world today.

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 2600. History Skills Seminar. (3) (W) 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 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 3090. Topics in U.S. History. (3) (W) Discussion of a topic in U.S. history. *May be repeated with change of topic.*

HIST 3091. Topics in European History. (3) (W) Discussion of a topic in European history. *May be repeated with change of topic.*

HIST 3092. Topics in Non-Western History. (3) (W) Discussion of a topic in non-Western history. *May be repeated with change of topic.* Meets non-Western requirement.

HIST 3093. Topics in Comparative History. (3) (W) Discussion of a topic in comparative history. *May be repeated with change of topic.*

HIST 3094. Topics in Applied History. (3) (W) Discussion of a topic in applied history. *May be repeated 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 3131. History of Sexuality. (3) Cross-listed Course(s): WGST 3131. 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.

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 3147. The Third Reich. (3) The origins of Nazism, the seizure of power, Hitler's domestic and foreign policy, and the collapse in World War II.

HIST 3148. The Holocaust. (3) 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 to examine the Shoah from the perspectives of the perpetrator, 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 3160. History of Modern China. (3) Examination of China from 1600 to the present, covering the founding of the last imperial dynasty, the arrival of the West, and China's struggle for unity in the twentieth century. Meets non-Western requirement.

HIST 3162. Revolutionary Movements in Modern China. (3) Examination of popular uprisings in nineteenth-century China and their relationship to China's twentieth-century revolutionary experience. Meets non-Western requirement.

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 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): INTL 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): INTL 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 3174. Resistance and Adaptation: Indian Peoples Under Spanish Rule. (3) Cross-listed Course(s): LTAM 3274. An historical examination of the interactions of indigenous peoples of the western hemisphere with Spanish colonial authorities from the conquest era to 1825. Focuses on the indigenous peoples of Mexico, Peru, Chile, and Argentina. Meets non-Western requirement.

HIST 3175. Reform, Riots, and Rebellions in Colonial Spanish America, 1692-1825. (3) Cross-listed Course(s): LTAM 3275. 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. Meets non-Western requirement.

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 3177. The Cuban Revolution. (3) Cross-listed Course(s): LTAM 3277. 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. 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): AFRS 3220 and 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) (W) 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): AFRS 3239 and 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 different 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 3241. United States Social History to 1860. (3) Ideas, groups, and institutions that shaped early America, with emphasis upon the changes in family, religion, community, and class.

HIST 3242. United States Social History Since 1860. (3) Ideas, groups, and institutions that evolved from the Civil War to the present, with emphasis upon the formation of modern-day American society.

HIST 3252. United States in the 20th Century, 1932 to the Present. (3) Political, economic, social, and intellectual aspects of American democracy from the New Deal to the Great Society. Special emphasis on the New Deal and post-New Deal reform as well as America's role in world affairs.

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 Foreign Relations, 1901 to the Present. (3) American diplomatic history from the administration of Theodore Roosevelt to the present. Special emphasis on the interaction between domestic, economic, political and social changes, and the formulation of American foreign policy.

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 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 3280. Blacks in Urban America. (3) Cross-listed Course(s): AFRS 3280. African Americans have been part of the urban scene since the colonizing of the Americas. Examines the ways in which their presence in cities has both exemplified and contradicted the understanding of both urban development and race relations in America from colonial times to the present.

HIST 3281. American Cities. (3) Explores U.S. urban history with the city as a physical place, as a socio-political environment, and as a cultural center. Emphasis on the social developments caused by urbanization.

HIST 3288. Modern American West, 1800 to Present. (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 3289. The Civil War and the American West. (3) Examination of the impact of the American Civil War on the Trans-Mississippi West. Exploration of how the war changed the relationship between these territories and the federal government; as well as the interaction between various constituencies.

HIST 3310. Teaching History. (3) This interdisciplinary hands-on seminar prepares students for a career in history education. Using historical developments of the 20th century as a starting point, students acquire practical, discipline-specific didactical skills native to the history profession and develop materials on NCSCS themes at the grade level they anticipate teaching. Geared toward advanced education students and history students seeking teaching licensure.

HIST 3380. Introduction to Public History. (3) An overview of the main fields in Public History, including Museum Studies, Historic Preservation, Digital Media, Heritage Tourism, Oral History and other practices at the instructor's discretion. Students explore how historians engage various audiences and undertake projects to understand how public historians work.

HIST 3381. Introduction to Museums and Historic Sites. (3) Introduces students to the history and functions of museums and historic sites. Through lecture, discussion, and field trips, students learn about the role of museums and historic sites in American society and across the globe.

HIST 3382. Introduction to Historic Preservation. (3) Introduction to the history of historic preservation in the United States and beyond. Examines current preservation issues within a broader historical and theoretical context, and highlights techniques available in the United States to identify and preserve historically significant structures, buildings, sites, areas, and objects.

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) (0) Prerequisite(s): History major and HIST 2600 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) (0) Prerequisite(s): History major and HIST 2600 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) (0) Prerequisite(s): History major and HIST 2600 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) (0) Prerequisite(s): History major and HIST 2600 with a grade of C or above. 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 4004. Topics in Applied Historiography. (3) (0) Prerequisite(s): History major and HIST 2600 with a grade of C or above. Research seminar examining scholarly trends and debates in the field of Applied History. Students must achieve a grade of C or above to satisfy major requirements.

HIST 4600. Senior Research Seminar. (3) (W) Prerequisite(s): HIST 2600 with grade of C or above; HIST 4000, HIST 4001, HIST 4002, HIST 4003, HIST 4004 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) (0) 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) (W) 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 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 and NURS 4090. 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. Healthcare Administration. (3) Prerequisite(s): HLTH 3102 and Public Health major. Overview of basic concepts and issues within the administration, financing, and policy of healthcare systems.

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 4210. Health Promotion and Risk Reduction. (3) Overview of health promotion and risk reduction techniques, including theories, strategies, and statistics.

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 4220. Mental and Emotional Well-Being. (3) Examination of mental and emotional health from a wellness perspective.

HLTH 4230. Drugs and Society. (3) Examination of use, misuses, and

abuse of natural and synthetic chemicals in today's society, including prevalence, risk factors, and prevention strategies.

HLTH 4240. Injury Prevention through the Life Span. (3) Introduction to intentional and unintentional injuries, including prevalence, risk factors, and prevention strategies.

HLTH 4250. Adolescent Health and Sexuality. (3) Examination of adolescent health sexuality issues in today's society.

HLTH 4260. Women: Middle Age and Beyond. (3) Cross-listed Course(s): GRNT 4260 and WGST 4260. 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 4270. Health Consumerism. (3) Examination of individual health consumer issues in the health marketplace.

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) (W) 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) (O, W) 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 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 1701. War, Peace, Justice and Human Survival. (3) Cross-listed Course(s): LBST 2101 Honors Section only. Prerequisite(s): Permission of the University Honors Program. The relationships between individual and local, state, and global values are examined within the context of war, peace and justice. Special emphasis is placed upon problems emergent with the introduction of nuclear weapons and the threat of nuclear war.

HONR 1702. Economic Welfare and International Communities. (3) Prerequisite(s): Permission of the University Honors Program. Study of the impact of economic institutions on international communities. Focus on development theories, multinational institutions, international debt, and Third World response, international poverty and income distribution and the economic impact on international communities of military spending.

HONR 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.

HONR 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.

HONR 2701. Enrichment Seminar. (2) Prerequisite(s): Permission of the University Honors Program. Students attend a variety of events from the visual arts and performing arts as well as special lectures. Through direct contact, this course is intended to introduce students to events, both contemporary and traditional, to which they would not otherwise be exposed. *May be repeated for credit with change of topic and coursework. Offered on a Pass/No Credit basis.*

HONR 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.

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): LBST 2301. A small seminar course taught by faculty members from different disciplines on interdisciplinary topics. *May be repeated for credit with change of topic and coursework.*

HONR 3701. Science, Technology, and Human Values. (3) Cross-listed Course(s): LBST 2213 Honors section only. Prerequisite(s): Permission of the University Honors Program. A study of historical and contemporary issues in the relationship between science and technology, on the one hand, and ethical, religious, and social concerns on the other hand.

HONR 3702. Seminar in Cultural Values and Social Issues. (3) (W) Prerequisite(s): Permission of the University Honors Program. An examination of social and cultural topics using a writing-intensive and interdisciplinary approach. *May be repeated for credit with change of topic and coursework.*

HONR 3790. University Honors Program Senior Seminar. (1) Prerequisite(s): University Honors Program member in good standing and with all other UHP course requirements completed, or permission of instructor. Focuses on development of a proposal for the University Honors Program (UHP) senior capstone project in consultation with an honors faculty committee selected by the student. Project proposals are submitted through the Application to Candidacy process for approval by the Honors College. The course is offered only in the Fall semester for students planning to graduate the following Spring or Fall semester.

HONR 3791. University Honors Program Senior Project. (3) (W) Prerequisite(s): HONR 3790 with grade of A; University Honors Program member in good standing; and approved Honors College Application to Candidacy. The Senior University Honors Program project is directed by an honors faculty committee selected by the student. This course provides the opportunity for writing workshops, group discussions, and feedback. The course is offered only in the Spring semester for students planning to graduate the same semester or in the following Fall semester.

Health Systems Management (HSMT)

HSMT 2101. Introduction to the Health Systems Management. (3) Prerequisite(s): Sophomore standing. 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. 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; and Sophomore standing. 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 3000. Special Topics. (3) 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 HSMT 2101 and HSMT 2104 with grades of C or above. 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) (O,W) Prerequisite(s): HSMT 2101, HSMT 2103, and HSMT 2104 with grades of C or above; Health Systems Management major; and 45 credit hours of college coursework. 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; Health Systems Management major; and 45 credit hours of college coursework. 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 3301. Health Insurance and Managed Care. (3) Prerequisite(s): HSMT 3203, Health Systems Management major, and Sophomore 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 3204. Health System Organization Development and Behavior. (3) Prerequisite(s): Health Systems Management major; and HSMT 2101, HSMT 2103, and HSMT 2104 with grades of C or above. Introduction to organizational theory with applications to healthcare systems, including organizational design and inter-organizational networks and alliances.

HSMT 4201. Health Policy and Law. (3) Prerequisite(s): HSMT 3201 and Health Systems Management major. 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, HSMT 3104, and HSMT 3204. 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) (W) Prerequisite(s): Health Systems Management major; HSMT 2101, HSMT 2103, and HSMT 2104 with grades of C or above; and HSMT 3104, HSMT 3201, HSMT 3203, and HSMT 3204 with grades of D or above. 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.*

Humanities, Technology, and Science (HTAS)

HTAS 2100. Introduction to Humanities, Technology, and Science. (3) An introduction to ways of considering interrelationships among three of the major dimensions of our culture: its science, its technology, and its humanistic orientation. Students taking this course are deemed to have met the requirements for the "Ethical and Cultural Critique" area of the LBST requirements and do not have to take an additional course to satisfy that area of General Education.

HTAS 3800. Independent Study in Humanities, Technology, and Science. (3) Study of a special topic under supervision of a faculty member. *May be repeated for credit with change of topic.*

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) (O,W) 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), 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 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.

International Studies (INTL)

INTL 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.

INTL 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.

INTL 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.

INTL 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.

INTL 2131. Introduction to Peace, Conflict, and Identity Studies. (3) Cross-listed Course(s): ANTH 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.

INTL 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.

INTL 2301. Introduction to European Studies. (3) Cross-listed Course(s): HIST 1121. European history from the Age of Absolutism to the present.

INTL 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.

INTL 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.*

INTL 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.*

INTL 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.*

INTL 3003. Topics in Peace, Conflict, and Identity Studies. (3) Analysis of a selected topic related to Peace, Conflict, and Identity Studies. *May be repeated for credit with a change of topic.*

INTL 3004. Topics in European Studies. (3) Analysis of a selected topic related to European Studies. *May be repeated for credit with change of topic.*

INTL 3005. Topics in Asian Studies. (3) Analysis of a selected topic related to Asian Studies. *May be repeated for credit with change of topic.*

INTL 3111. Politics and Culture in Literature. (3) (W) 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.

INTL 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.

INTL 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.

INTL 3115. Globalization and Digital Media. (3) Cross-listed Course(s): COMM 3126. An analysis of the role and impact of digital media on globalization. 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.

INTL 3116. Cultures and Conflicts. (3) Cross-listed Course(s): ANTH 3116. 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.

INTL 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.

INTL 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.

INTL 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.

INTL 3120. Women's Studies International. (3) Cross-listed Course(s): WGST 4120. Explores policies affecting women's lives across international borders and looks at a range of topics from divorce, marriage, violence against women and abortion to work and poverty.

INTL 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.

INTL 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.

INTL 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.

INTL 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.

INTL 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.

INTL 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.

INTL 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.

INTL 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.

INTL 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.

INTL 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.

INTL 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.

INTL 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.

INTL 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.

INTL 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.

INTL 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.

INTL 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.

INTL 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.

INTL 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.

INTL 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.

INTL 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.*

INTL 4601. International Studies Seminar. (3) (O,W) 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.

INTL 4701. Honors Research in Global Studies. (3) Prerequisite(s): INTL 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.

Computer Science (ITCS)

ITCS 1101. Introduction to Computer Concepts. (3) Pre- or Corequisite(s): MATH 1100, 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) Cross-listed Course(s): ITIS 1102. 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 1203. Survey of Computing. (3) Cross-listed Course(s): ITIS 1203. Introductory course that explores the broad field of computing as it applies to daily life. Topics cover computers of all sizes from handheld devices to super computers; the role of software from operating systems to applications; the software development process; issues of security and privacy on the Internet and the World Wide Web; and possible fields of study within the broad field of information technology.

ITCS 1301. Introduction to the Financial Services Industry. (3) Cross-listed Course(s): ITIS 1301. 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 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 ITCS 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 2163. Introduction to File Processing. (3) Prerequisite(s): ITSC 1213. Concepts and techniques of structuring data on external storage devices; provides the foundation for applications of data structures and file processing techniques.

ITCS 2181. Computer Logic and Design. (3) Prerequisite(s): ITSC 1212 or permission of department. Logic design; logic circuits; state diagrams; Karnaugh maps; memories; tri-state devices; bus structures; and data control concepts.

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 2231. Introduction to Business Programming. (3) Pre- or Corequisite(s): INFO 2130 or permission of department. The examination of business problems, the extraction of the logic and business rules, and the relationship between business logic, programming constructs and technologies for decision support.

ITCS 2301. Financial Services Computing Environment. (3) Cross-listed Course(s): ITIS 2301. Prerequisite(s): ITCS 1301 or ITIS 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 3110. Compiler Construction. (3) Prerequisite(s): ITCS 2215. Review of programming language structures, translation, loading, execution, and storage allocation. Compilation of simple expressions and statements. Organization of a compiler, including compile-time and run-time tables, lexical scan, syntax scan, object code generation, error diagnostics, object code optimization techniques, and overall design. Use of compiler writing languages and boot strapping.

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 3123. Introduction to Numerical Methods. (3) Prerequisite(s): ITSC 2214; and MATH 1241 or MATH 1120. General concepts of scientific computing and their applications to such areas as non-linear equations, numerical integration, spline and polynomial interpolation, and initial value problems.

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 3145. Parallel and Distributed Computing. (3) Prerequisite(s): ITSC 2214; and ITSC 3146 or ITSC 3181; or permission of instructor. Parallel and distributed computing is the use of multiple processors or computers to achieve greater performance. All computers today have multiple processor cores. Topics include: classification of parallel systems, programming parallel shared-memory systems, programming distributed-memory systems, patterns for parallel programming, foundation of parallel algorithms, and languages and tools for parallel programming.

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 or permission of department. Basic concepts of artificial intelligence. Topics include: defining the problem as a state space search, production systems; heuristic search; basic problem-solving methods; game playing; knowledge representation using predicate logic, semantic nets, frames, and scripts; non-monotonic reasoning, statistical and probabilistic reasoning.

ITCS 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.

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. Internet architecture and protocols. Distributed vs. centralized processing. Data communications; speed; capacity; media, protocols. Network architectures. Evaluation of alternatives. Case studies.

ITCS 3170. Applied Scientific Computing. (3) Prerequisite(s): MATH 2164 or its equivalent. Topics include: Concepts of continuous and discrete signals; continuous Fourier transform and its applications in multimedia processing; discrete Fourier transform and its applications in arts and multimedia processing; fundamentals of stochastic systems; fundamentals of ordinary differential equations; applications of differential equations in modeling; wavelet transform and its applications in music and multimedia processing; fundamentals of fractals and their application in arts and science; classification and clustering.

ITCS 3182. Computer Organization and Architecture. (3) Prerequisite(s): ITCS 2181 or ECGR 2181. Machine level representation of data; von Neumann architecture; instruction sets and types; addressing types; assembly and machine language programming; control unit and microprogramming; alternate architectures.

ITCS 3183. Hardware System Design. (3) Prerequisite(s): ITSC 3181 or ITCS 3182, or permission of department. Design of hardwired control systems; processors and memory systems; application specific design; use of simulation tools. Laboratory intensive course.

ITCS 3190. 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 3610 or ITCS 1610. A service-learning course that builds upon the leadership concepts from ITCS 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 3610 or ITCS 1610. A service-learning course that builds upon the leadership concepts from ITCS 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 3301. Introduction to the Regulatory Environment for Financial Services Firms. (3) Cross-listed Course(s): ITIS 3301. Prerequisite(s): ITCS 2301 or ITIS 2301. Using case studies, enable the student to understand the compliance and regulatory environment that currently exists for Financial Services firms.

ITCS 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.

ITCS 3690. Seminar. (1 to 6) Prerequisite(s): Permission of department. A seminar course in computer science. *May be repeated for credit.*

ITCS 3691. Seminar. (1 to 6) Prerequisite(s): Permission of department. A continuation of ITCS 3690. A seminar course in computer science. *May be repeated for credit.*

ITCS 3699. Senior Seminar. (1 to 3) Prerequisite(s): Senior standing and permission of department. Each participant will prepare a lecture on a topic in computer science. Emphasis will be on communication of technical information as well as on content of the presentations. *May be repeated for credit.*

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 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 4107. Formal Languages and Automata. (3) Prerequisite(s): MATH 1165 or ITSC 2175. Detailed study of abstract models for the syntax of programming languages and information processing devices. Languages and their representation; grammars, finite automata and regular sets; context-free grammars and pushdown automata; Chomsky Hierarchy; closure properties of families of languages; syntax analysis.

ITCS 4111. Introduction to Natural Language Processing. (3) Prerequisite(s): ITSC 2214 and MATH 2164. The practical methods and techniques of natural language processing and text mining. These techniques, mainly the techniques of syntactic and semantic processing, are illustrated with specific tasks (such as: Information Extraction, Dialogue Systems, Information Retrieval, etc.). Most programming assignments are for the laptop. Selected ones could be done in the cloud (e.g., using AlchemyAPI and/or IBM Bluemix). Students are expected to bring their laptops to each class.

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 4128. Programming Languages and Compilers. (3) Prerequisite(s): ITSC 2214. Introduction to the concepts and techniques used in describing, defining, and implementing programming languages and their compilers. Introduction to parsing and parser construction; LL and LR grammars; syntax directed translation; data object representations; run time structures; intermediate languages; code optimization.

ITCS 4131. Communication Network Design. (3) Prerequisite(s): ITCS 3166 or permission of department. Emphasis on the design and analysis of communication networks. Application, host, and network requirements analysis; data flow analysis, models and specifications; technology choices; Interconnection mechanisms; network management and security; physical network design; addressing and routing.

ITCS 4133. Numerical Computation Methods and Analysis. (3) Prerequisite(s): ITSC 2214; and MATH 1120 or MATH 1241. Introduction to principles and techniques behind numerical methods and algorithms that underlie modern scientific and engineering applications. Roots of equations: linear systems (direct methods, LU/QR factorization, iterative methods); Eigen values and vectors; Interpolation, Approximation; Numerical Differentiation/Integration, ODEs and PDEs.

ITCS 4141. Computer Organization and Architecture. (3) Prerequisite(s): ITSC 3181 and ITCS 3182, or equivalents. Fundamentals of computer design; instruction set design, basic processor implementation techniques; pipelining; memory hierarchy; Input/Output. Cost/performance and hardware/software trade-offs.

ITCS 4145. Parallel Computing. (3) Prerequisite(s): ITSC 2214; and ITSC 3181 or ITCS 3182. Types of parallel computers, programming techniques for multiprocessor and multicomputer systems, parallel strategies, algorithms, and languages.

ITCS 4146. Grid Computing. (3) Prerequisite(s): ITSC 1213. Grid computing software components, standards, web services, security mechanisms, schedulers and resource brokers, workflow editors, grid portals, grid computing applications.

ITCS 4150. Mobile Robotics. (3) Prerequisite(s): ITSC 2214 and MATH 2164. 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. Computer Vision. (3) Prerequisite(s): ITSC 2214 and MATH 2164. General introduction to computer vision and its application. Topics include: low level vision, 2D and 3D segmentation, 2D description, 2D recognition, 3D description and model-based recognition, and interpretation.

ITCS 4156. Introduction to Machine Learning. (3) Prerequisite(s): ITSC 2214, STAT 2122, and MATH 2164. Introduction to the machine learning pipeline of data collection, feature creation, algorithms, and evaluation for classification and regression, with an emphasis on practical applications. Covers fundamental concepts, such as training, validation, overfitting, and error rates in addition to commonly used machine learning algorithms, such as decision trees, Naive Bayes, and random forests.

ITCS 4157. Computer-Aided Instruction. (3) Prerequisite(s): Permission of department. History of Computer-Aided Instruction (CAI); study of current CAI systems; development of man-machine dialogue; programming tools for CAI; information structures for computer-oriented learning; and the advantages, disadvantages, and costs of CAI.

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 4181. Microcomputer Interfacing. (3) Prerequisite(s): ITSC 3181, ITCS 3182, ECGR 3181, or permission of department. Signal conditioning, A/D conversion, noise, transmission line effects, signal processing, D/A conversion and serial/parallel interfaces.

ITCS 4182. Introduction to High-Performance Computing. (3) Cross-listed Course(s): ITCS 5182. Prerequisite(s): ITCS 3145 or ITSC 3181, 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. Eplores 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.

ITCS 4237. Audio Processing for Entertainment Computing. (3) Prerequisite(s): MATH 1242, MATH 2164, and ITCS 2215 or equivalents. Introduction to the principles and applications of audio (digital signal) processing focusing on entertainment domains. Topics include: analysis of signals, transforms, digital filter design techniques, audio engine development, file encoding/decoding, spatial sound rendering, optimization, and advanced audio techniques.

ITCS 4238. Intelligent and Interactive System Studio. (3) Prerequisite(s): ITCS 3153. This project-oriented course introduces upper-level undergraduate students to algorithms and systems related to robotic vision, perception, navigation planning and control, mapping, localization, and human-robot interaction. Students work in small groups to develop and implement algorithms in real mobile robots and using real sensors, which can lead to their senior design projects.

ITSC 4490. Professional Internship. (0 to 6) Prerequisite(s): Permission of department. 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. Each student's internship program must be approved by the supervising faculty. A mid-term report and a final report to be evaluated by the supervising faculty are required. Grading by the supervising faculty in consultation with off-campus supervisor at the internship organization. *May be repeated but a maximum of six credit hours only may be used to meet a major requirement such as a major elective. Any credit above the maximum of six hours may only be used as free electives.*

ITCS 4640. Financial Services Informatics Industry Foundations Capstone I. (3) Cross-listed Course(s): ITIS 4640. Prerequisite(s): Senior standing. An individual or group project in the theory, teaching, or application of Financial Services Informatics under the direction of a faculty member. Projects must be approved before they may be initiated.

ITCS 4641. Financial Services Informatics Industry Foundations Capstone II. (3) Cross-listed Course(s): ITIS 4641. Prerequisite(s): ITCS/ITIS 4640. A continuation of ITCS/ITIS 4640.

Software and Information Systems (ITIS)

ITIS 1102. Advanced Internet Concepts. (3) Cross-listed Course(s): ITCS 1102. Prerequisite(s): ITCS 1101 or permission of department. 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. May not be taken for credit by ITIS majors.

ITIS 1200. Freshman Seminar. (3) Prerequisite(s): Permission of department. An introductory Information Technology course designed to assist students with the transition to college by acquainting them with the University's resources and support, exploring opportunities in the IT field, and developing a strong sense of community within the College of Computing and Informatics and the University as a whole. The development of learning skills, time management skills, and other life skills necessary for college success will be emphasized.

ITIS 1203. Survey of Computing. (3) Cross-listed Course(s): ITCS 1203. Introductory course that explores the broad field of computing as it applies to daily life. Topics cover computers of all sizes from handheld devices to super computers; the role of software from operating systems to applications; the software development process; issues of security and privacy on the Internet and the World Wide Web; and possible fields of study within the broad field of information technology.

ITIS 1301. Introduction to the Financial Services Industry. (3) Cross-listed Course(s): ITCS 1301. An overview of the financial services industry, including such areas as the industry components; regulatory considerations and their impact; and relations with other institutions.

ITIS 1350. eScience. (4) Corequisite(s): ITIS 1350L. This course introduces the application of computational methods to scientific exploration and discovery in the natural sciences. Examples include modeling the spread of viruses, predator-prey relationship, the carbon cycle, and fish schooling. Both theory and practice of computational simulation and modeling techniques are examined as tools to support the scientific method. No computer programming knowledge is required. The course grade includes the student's performance in ITIS 1350L. Must be taken concurrently with ITIS 1350L.

ITIS 1350L. eScience Laboratory. (0) Corequisite(s): ITIS 1350. Laboratory exercises that introduce computational tools and techniques that support scientific exploration and discovery in the natural sciences. One three hour laboratory per week. No programming experience is required. Performance in ITIS 1350L will be counted as a portion of the ITIS 1350 grade. Must be taken concurrently with ITIS 1350. *Graded on a Pass/No Credit basis.*

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 2301. Financial Services Computing Environment. (3) Cross-listed Course(s): ITCS 2301. Prerequisite(s): ITCS 1301 or ITIS 1301. Students gain insights on several key components in financial computing environments and the enabling technologies.

ITIS 3100. Introduction to IT Infrastructure Systems. (3) Prerequisite(s): ITIS 2300. The methodologies, tools, and technologies that are important for understanding various IT infrastructure systems such as file storage services, email services, and web services. Focus placed on understanding widely-used network infrastructure services and systems, and acquiring basic knowledge in design practices and management of such systems. *Can serve as a prerequisite course for ITIS 3200 and ITIS 4220.*

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 3106. Structured System Analysis and Design. (3) Prerequisite(s): ITSC 1213 or permission of department. Structured systems development. Strategies and techniques of structured analysis and structured design to produce logical methodologies for dealing with complexity in the development of information systems.

ITIS 3130. Human-Centered Design. (3) Prerequisite(s): Sophomore, Junior, or Senior standing. An introduction to methods and practice of human-centered design for interactive systems. Topics include: design principles, need finding, design prototypes, and evaluation of interaction designs so that interactive systems are compatible with human capabilities and expectations. Students learn to work in design teams and write project reports.

ITIS 3131. Human and Computer Information Processing. (3) Prerequisite(s): ITIS 2300 or permission of department. Overview of methods people use to acquire, store, and use the data they receive from the environment and their implementation of computers. Topics include: perception, pattern recognition, attention, memory, knowledge representation, language, and problem solving.

ITIS 3132. Information Systems. (3) Prerequisite(s): ITIS 2300 or permission of department. Analysis, design, implementation, and evaluation of information systems. Topics include: techniques of manipulating data; behavioral component of dealing with the user and integration of technology, procedures, and people.

ITIS 3135. Web-Based Application Design and Development. (3) Prerequisite(s): ITSC 2214 with grade of C or above. Design and programming concepts for developing interactive web based applications: HTML, CSS, the Document Object Model (DOM), event-driven programming, client side scripting, and web security considerations.

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 3300. Software Requirements and Project Management. (3) Prerequisite(s): ITIS 2300 or permission of department. Introduction to requirement engineering and project management methodologies. Topics include: requirements elicitation, specification, and validation; structural, informational, behavioral, security, privacy, and computer user interface requirements; scenario analysis; application of object-oriented methodologies in requirements gathering; spiral development model; risk management models; software engineering maturity model; project planning and milestones; cost estimation; team organizations and behavior. Case studies will be used.

ITIS 3301. Introduction to the Regulatory Environment for Financial Services Firms. (3) Cross-listed Course(s): ITCS 3301. Prerequisite(s): ITCS 2301 or ITIS 2301. Using case studies, understand the compliance and regulatory environment that currently exists for Financial Services firms.

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 4166. Network-Based Application Development. (3) Prerequisite(s): ITCS 3160 and ITIS 2300. Examines the issues related to network based application development. Topics include: introduction to computer networks, web technologies and standards, network based programming methodologies, languages, tools and standards.

ITIS 4170. Advanced Client Applications. (3) Prerequisite(s): ITIS 2300 and ITSC 2214. The theory and practice of techniques to develop Web applications that have the features and functionality of traditional desktop applications, dealing with the browser as graphical user interface and the Internet as platform, with attention to interactivity, speed, functionality, and usability. Technologies covered include: X/D/HTML, DOM, CSS, and client-side scripting for layout and formatting, data interaction formats such as XML and JSON, and

asynchronous server interaction with client-side scripting and XML (AJAX). The course will examine emerging frameworks for development support, as well as typical applications such as mapping "mashups," folksonomies, and social networking.

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 4220. Vulnerability Assessment and Systems Assurance. (3) Prerequisite(s): ITIS 3200 or permission of department. Methodologies, tools, and technologies that are important for vulnerability assessment and systems assurance. Topics include: ethical hacking techniques, vulnerability assessment, risk assessment/management, finding new exploits, discovering vulnerabilities, penetrating network perimeters, bypassing auditing systems, and assured administration of systems as well as evaluating systems assurance levels. Focus placed on: 1) understanding current penetration techniques for networks, operating systems, services and applications; 2) investigating mitigation and defense strategies; and 3) studying legal and ethical considerations. Based on case studies with a strong lab component.

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 3146, and STAT 1220 or equivalent. 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 4350. Rapid Prototyping. (3) Cross-Listed Course(s): ITIS 5350. Prerequisite(s): Sophomore, Junior, or Senior 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 4390. Interaction Design Studio. (3) Prerequisite(s): ITIS 3130. Aspects of interaction design taught in a studio setting. Topics include: gesture-based interaction, tangible interaction, large public display interaction, tabletop interaction, multi-touch tablet interaction, and human-robot interaction. Students learn how to apply a theoretical understanding of some aspect of interaction design to the study of existing designs and the development of a new design. Outcomes include writing a literature review about interaction design, executing user studies and critiques of existing designs, and developing and implementing a new interaction design for a specific purpose. *May be repeated for credit.*

ITIS 4410. User-Centered Design and Evaluation. (3) Prerequisite(s): ITIS 3130. Designed to teach the user-centered design and evaluation process. In particular, students gain hands-on experience with the process of interface design, methods of design, and ways to evaluate and improve the design of interactive software applications in a course-long project. Students learn how to employ techniques which ensure that end-users are fully considered at all stages of the design process, from inception to implementation. Assignments involve planning, designing, and conducting studies to learn about user needs; developing protocols and instruments for data collection; brainstorming, prototyping, and refining interactive solutions for a user problem; and designing and executing user evaluations of interactive software interfaces.

ITIS 4420. Usable Security and Privacy. (3) Prerequisite(s): ITIS 3200. Much of the work into security and privacy solutions ignore a critical element – the human who must interact with those solutions. In this course, privacy and security from a user-centered point of view is investigated. How do people think about privacy and security? How do they interact with current applications and solutions? What should be considered in designing user-friendly security systems? A variety of usability and user-interface issues related to privacy and security, as well as an examination of potential designs and solutions, are introduced.

ITIS 4440. Interactive Systems Design and Implementation. (3) Prerequisite(s): ITSC 2214. An introduction to the fundamentals of implementing interactive systems, with a focus on human-centered design. Topics include: architecture of interaction applications, event handling, direct vs. indirect GUI programming, 2D graphics programming, layout, design patterns, and design critique. Students learn the fundamental theory of the Model-View Controller Architecture and apply it to building a complete standalone application. Outcomes include the creation of a full application with multiple different views that communicate with a single model, as well as experience working with GUI

programming and implementing common interaction design patterns such as direct manipulation and drag and drop.

ITIS 4510. 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 4640. Financial Services Informatics Industry Foundations Capstone I. (3) Cross-listed Course(s): ITCS 4640. Prerequisite(s): Senior standing. An individual or group project in the theory, teaching, or application of Financial Services Informatics under the direction of a faculty member. Projects must be approved before they may be initiated.

ITIS 4641. Financial Services Informatics Industry Foundations Capstone II. (3) Cross-listed Course(s): ITCS 4641. Prerequisite(s): ITCS 4640 or ITIS 4640. A continuation of ITCS/ITIS 4640.

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 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) (W) 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 3650. History of Italian Film. (3) (W) 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) (W) Cross-listed Course(s): LACS 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 problem-solving using a high level modern programming language; source and object code; elements of a programming language; numbering systems; assignment, arithmetic, logical, and relational operations; data types; expressions; variables, constants, and literals; naming conventions; reserved words; program flow; arrays; object-oriented concepts (classes, objects, and methods); and problem-solving techniques.

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.

Pre- or Corequisite(s): MATH 1100, MATH 1103, MATH 1120, or MATH 1241. Advanced topics in Java including version control, use of debuggers, class design, aggregation and association, exception handling, generic and abstract types, inheritance, polymorphism, interfaces, and abstract classes.

ITSC 1600. Computing Professionals. (2) Prerequisite(s): Computer Science major. 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 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 1212 with grade of C or above or DTSC 1302 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. (3) Prerequisite(s): ITSC 1213 with grade of C or above. A study of the theory and implementation of abstract data types (ADTs) including stacks, queues, and both general purpose and specialized trees and graphs. Includes the implementation and analysis of algorithms related to the various data structures studied, including creation, searching, and traversal of ADTs.

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. Community Outreach Seminar. (1) Prerequisite(s): Permission of department. Students learn professional skills through active community outreach. They develop knowledge and skills in team-building; creating and applying technology-based solutions; oral and written communications; and team-based project participation and management. This course expects students to engage in off-campus community outreach activities. *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 3146. Introduction to Operating Systems and Networking. (3) Prerequisite(s): ITSC 2214 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 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 3688. Computers and Their Impact on Society. (3) (O,W) Prerequisite(s): Junior or Senior standing; and either Computer Science major or minor, Humanities, Technology, and Science minor, or Linguistics minor. A study of current topics (software piracy, hacking,

professional conduct) in computer science and the impact of computers on various subsets (home, government, and education) of society.

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 3700. Professionalism and Communication in Technology. (3) Prerequisite(s): ITSC 2700, ITCS 3610 (Honors section), and acceptance into the College of Computing and Informatics Honors Program. Presentation and training in the methods by which computing professionals present their research, ideas and accomplishments. Focus is given to writing an honors proposal, research thesis, professional portfolio, business plan, investment pitch, and presentation of each of these topics.

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): Permission of instructor 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.

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) Corequisite(s): JAPN 1201L. Acquisition of communicative competence in speaking, listening comprehension, reading, and writing at a beginning level, with attention to cultural awareness.

JAPN 1201L. Elementary Japanese I Lab. (1) Corequisite(s): JAPN 1201. Additional practice 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 and JAPN 1201L, or permission of department. Corequisite(s): JAPN 1202L. Continuation of JAPN 1201.

JAPN 1202L. Elementary Japanese II Lab. (1) Prerequisite(s): JAPN 1201 and JAPN 1201L. Corequisite(s): JAPN 1202. Continuation of JAPN 1201L.

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 and JAPN 1202L, or permission of department. Corequisite(s): JAPN 2201L. Acquisition of communicative competence in speaking, listening comprehension, reading, and writing at an intermediate level, with attention to cultural awareness.

JAPN 2201L. Intermediate Japanese I Lab. (1) Prerequisite(s): JAPN 1202 and JAPN 1202L. Corequisite(s): JAPN 2201. Continued practice 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 and JAPN 2201L or permission of department. Corequisite(s): JAPN 2202L. Continuation of JAPN 2201.

JAPN 2202L. Intermediate Japanese II Lab. (1) Prerequisite(s): JAPN

2201 and JAPN 2201L. Corequisite(s): JAPN 2202. Continuation of JAPN 2201L.

JAPN 2205. Japanese Oral Communication. (3) Prerequisite(s): JAPN 2201 or permission of the department. Students are paired with native Japanese speakers via Skype to improve linguistic production and communication skills. Practice in speech and presentation.

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) (0) 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 3050. Topics in the Japanese Language. (1 to 3) Prerequisite(s): JAPN 2202 or permission of instructor. Consideration of a specific topic related to Japanese language. *May be repeated for credit with change of topic.*

JAPN 3051. Topics in Japanese. (1 to 3) Prerequisite(s): JAPN 2202 or permission of instructor. May be taken simultaneously with JAPN 3130, JAPN 3140, or JAPN 3160. Students study Japanese specifically related to each course topic.

JAPN 3101. Kanji through Reading. (3) Prerequisite(s): JAPN 2202 and JAPN 2202L, 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 and Japanese Popular Culture. (3) Prerequisite(s): Sophomore, Junior, or Senior standing or permission of instructor. Examines anime (Japanese animation) and manga (graphic novels), two of the most important cultural products to appear in the post-war period, as a way of understanding the changing character of contemporary Japanese culture and society. As anime is a rich and diverse medium, students approach it from a variety of perspectives: as art, as social commentary, and as Japanese and global popular culture. Conducted in English.

JAPN 3160. Topics in Japanese Film. (3) (W) Prerequisite(s): Sophomore, Junior, or Senior standing; and WRDS 1103 or WRDS 1104 with a grade of C or above. 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 3170. Anime and Japanese Popular Culture. (3) (W) Prerequisite(s): Sophomore, Junior, or Senior standing; and WRDS 1103 or WRDS 1104 with a grade of C or above; or permission of department. Examines anime (Japanese animation) and manga (graphic novels), two of the most important cultural products to appear in the post-war period, as a way of understanding the changing character of contemporary Japanese culture and society. As anime is a rich and diverse medium, students approach it from a variety of perspectives: as art, as social commentary, and as Japanese and global popular culture. Conducted in English.

JAPN 3201. Upper Intermediate Japanese I. (3) Prerequisite(s): JAPN 2202 and JAPN 2202L, or permission of department. Corequisite(s): JAPN 3201L. Review of Japanese grammar and guided conversation on prepared topics. Emphasis on spoken Japanese.

JAPN 3201L. Upper Intermediate Japanese I Lab. (1) Prerequisite(s): JAPN 2202 and JAPN 2202L. Corequisite(s): JAPN 3201. Learn and review grammar, as well as build vocabulary, kanji, listening, and reading skills for Level N5 or Level N4 of the Japanese-Language Proficiency Test (JLPT). *May be repeated for credit one time.*

JAPN 3202. Upper Intermediate Japanese II. (3) Prerequisite(s): JAPN 3201 and JAPN 3201L, or permission of department. Corequisite(s): JAPN 3202L. Review of Japanese grammar and guided compositions on prepared topics. Emphasis on vocabulary, idiomatic expressions, and stylistics.

JAPN 3202L. Upper Intermediate Japanese II Lab. (1) Prerequisite(s): JAPN 2202 and JAPN 2202L. Corequisite(s): JAPN 3202. Learn and review grammar as well as build vocabulary, kanji, listening, and reading skills for Level N4 or Level N3 of the Japanese-Language Proficiency Test (JLPT). *May be repeated for credit one time.*

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): JAPN 3201 and JAPN 3201L with grades of B or above, and 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 4050. Topics in Japanese. (1 to 3) Prerequisite(s): JAPN 3202 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 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 4150. Studies in Japanese Language. (3) Prerequisite(s): JAPN 3202, or permission of department. Studies in intensive intercultural communication practice in speaking, listening, reading and writing, and translation/interpretation.

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) (O) 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, JAPN 3201L, JAPN 3202, and JAPN 3202L. 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): JAPN 3202 and JAPN 3202L, or permission of department. 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) (W) 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 and JAPN 2201L, 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/minor students who study abroad in Japan for a semester or longer. Conducted in Japanese.

Journalism (JOUR)

JOUR 2100. Writing Foundations in Communication Studies. (0) Prerequisite(s): Pre-Communication or Communication Studies major, or Journalism minor. A self-paced examination of correct grammar, punctuation, and writing style. Refinement of students' writing skills for journalism and public relations applications. Students must pass a test to demonstrate a proficiency in grammar, punctuation, and word usage. *Graded on a Pass/No Credit basis.*

JOUR 2160. Introduction to Journalism. (3) (W) Prerequisite(s): Pre-Communication or Communication Studies major, or Journalism minor. Pre- or Corequisite(s): JOUR 2100. 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 Outdoor Adventure. (2) Prerequisite(s): Outdoor Adventure Leadership minor or permission of instructor. Introduction to outdoor adventures through active participation in hikes, challenge courses, climbing wall, a solo experience, weekend trips, class discussions and written reflection. Participation in a Venture public trip required, individually selected from Venture's offerings for the semester. Special fee assessed for the trips.

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 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 2237. River Management. (2) Prerequisite(s): KNES 1231; and Outdoor Adventure Leadership minor or 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 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 2239. Rock Climbing Management. (2) Prerequisite(s): KNES 2233 or permission of instructor. Intermediate rock climbing with emphasis on setting anchors, managing a rock climbing site, safety systems and rescues, and climbing techniques. 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 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 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 and Culture Studies (LACS)

LACS 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.

LACS 1202. Elementary Foreign Language II. (3 to 4) Prerequisite(s): LACS 1201 or permission of department. Continuation of LACS 1201.

LACS 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 LACS 1201 and LACS 1202 in one semester. Fulfills a two-semester language requirement. *May be repeated with different foreign language.*

LACS 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 LACS 1201 and LACS 1202 in one semester. Fulfills two-semester foreign language requirement.

LACS 2050. Topics in Foreign Language. (1 to 4) Studies in a selected field of interest. *May be repeated for credit with change of topic.*

LACS 2201. Intermediate Foreign Language. (3 to 4) Prerequisite(s): LACS 1202 or permission of department. Grammar review, conversation, composition, and readings based on the culture and civilization.

LACS 2202. Intermediate Foreign Language. (3 to 4) Prerequisite(s): LACS 2201 or permission of department. Grammar, conversation, composition, and readings based on students' needs.

LACS 3050. Topics in Language, Literature, and Culture. (3) (W) Studies in a selected field of interest. *May be repeated for credit with change of topic.*

LACS 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.*

LACS 3160. European Cinema. (3) (O,W) 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.

LACS 3201. Advanced Foreign Language I. (3) Prerequisite(s): LACS 2202 or permission of department. Review of grammar and guided conversation on prepared topics. Emphasis on spoken language.

LACS 3202. Advanced Foreign Language II. (3) Prerequisite(s): LACS 3201 or permission of department. Review of grammar and guided compositions on prepared topics. Emphasis on vocabulary, idiomatic expressions, and stylistics.

LACS 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 LACS 4700).

LACS 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.*

LACS 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.*

LACS 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.*

LACS 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.*

LACS 4700. Honors Project. (3) (W) Prerequisite(s): LACS 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.

LACS 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.*

Latin (LATN)

LATN 1201. Elementary Latin I. (4) Beginning survey of elementary Latin grammar through selected readings.

LATN 1202. Elementary Latin II. (4) Prerequisite(s): LATN 1201 or equivalent. Completion of the survey of elementary Latin grammar;

connected readings in elementary to intermediate Latin prose.

LATN 2201. Latin Prose. (3) Prerequisite(s): LATN 1202 or equivalent. Extended selected readings in Latin prose of intermediate difficulty: Caesar, Nepos, or Seneca.

LATN 3800. Directed Individual Reading. (1 to 3) Prerequisite(s): Permission of instructor. Individual work on an author or genre to be arranged with the instructor.

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.*

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.*

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.*

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.*

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.*

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, Junior, or Senior standing; 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.*

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) (W) Cross-listed Course(s): PHIL 1105. 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) Cross-listed Course(s): PHIL 1106. 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): INTL 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 3239. Ethics Bowl Prep. (3) (O,W) Cross-listed Course(s): PHIL 3239. Prerequisite(s): Legal Studies minor. Preparation for participation on the University's Ethics Bowl Team. Training in ethical theory and argumentation. Oral and written practice, both individually and collaboratively, presenting sample case studies.

LEGL 3240. Ethics Bowl. (3) (O,W) Cross-listed Course(s): PHIL 3240. Prerequisite(s): LEGL 3239 and Legal Studies minor. Students prepare for and participate in the Mid-Atlantic Regional Ethics Bowl competition. Students intensively research cases (developed by the Intercollegiate Ethics Bowl), and work both collaboratively and individually on written case analyses. Significant amounts of in-class time scrimmaging and working on public-speaking and oral communication skills.

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) (O) 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 3510. Advanced Logic. (3) Cross-listed Course(s): PHIL 3510. Prerequisite(s): Legal Studies minor. Advanced systems of logic, with emphasis upon symbolic logic and formal systematic characteristics such as axiomatics and proof techniques.

LEGL 3810. Social and Political Philosophy. (3) Cross-listed Course(s): PHIL 3810 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) (O,W) 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) (W) Cross-listed Course(s): SOCY 4265 and SOCY 4765. 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) (O,W) 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.

Latin American Studies (LTAM)

LTAM 1100. Introduction to Latin America. (3) (O) An introductory, interdisciplinary survey of the field of Latin American Studies. Focus on the culture, economy, geography, history, politics, and society of Latin America, as well as on the diverse ways in which scholars have studied the region.

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 INTL 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 3110. Black Families in the Diaspora. (3) Cross-listed Course(s): AFRS 3210 and SOCY 3210. Acquaints students with historical and contemporary experiences of peoples of African descent in the Caribbean and Latin American countries with specific emphasis on family structure and family relationships. Includes discussion of theories, history, impact of globalization on family structure, roles of women and identity, socioeconomic status and mobility, slavery, colonialism, and capitalism. Provides a better understanding of the comparative relationships and links between family structures and common life experiences among peoples of African descent in different parts of the world, with specific emphasis on the Caribbean and Latin American regions.

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) Cross-listed Course(s): SPAN 3029. 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 3190. Political Economy of the Caribbean. (3) Cross-listed Course(s): AFRS 3190. An examination of the manifestations of Caribbean economic problems and policies and Caribbean political development from the post-war period to the present.

LTAM 3220. The Caribbean from Slavery to Independence. (3) Cross-listed Course(s): AFRS 3220 and 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) Cross-listed Course(s): ANTH 3155. 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) (W) 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 3274. Resistance and Adaptation: Indian Peoples Under Spanish Rule. (3) Cross-listed Course(s): HIST 3174. An historical examination of the interactions of indigenous peoples of the western hemisphere with Spanish colonial authorities from the conquest era to 1825. Focuses on the indigenous peoples of Mexico, Peru, Chile, and Argentina.

LTAM 3275. Reform, Riots, and Rebellions in Colonial Spanish America, 1692-1825. (3) Cross-listed Course(s): HIST 3175. 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) Cross-listed Course(s): HIST 3177. 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 3300. Maya Art. (3) 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.

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 3302. Andean Art. (3) Survey of the cultures, artistic production and architecture of the Andean region to the period of European invasion in 1532. Readings and discussions focus on artistic traditions, cosmology, 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) (W) 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 3360. Studies in Hispanic Film (3) Cross-listed Course(s): SPAN 3160 if course is on the Latin American topic. 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) (W) The study of Latin American film. Conducted in English.

LTAM 3362. Studies in US Latino/a Cinema. (3) (W) 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 4116. Culture and Conflict in the Amazon (3) Cross-listed Course(s): ANTH 4616. 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 4322. Studies in Advanced Business Spanish. (3) Cross-listed Course(s): SPAN 4122. Prerequisite(s): SPAN 3201, SPAN 3202, or SPAN 3203; and SPAN 3220; or permission of department. Advanced studies in special topics in Business Spanish (e.g., Tourism in Spain and Latin America, Free Trade in the Americas (NAFTA/TLCAN, Mercosur, The Andean Pact, CAFTA-DR), Socioeconomic Issues in the Greater Caribbean, Business and Technology in Latin America and Spain).

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) (W) 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 3000. Topics in Mathematics Education, Elementary. (1 to 6)

Prerequisite(s): Permission of department. Special topics in mathematics education for grades K-6. *May be repeated for credit with change of topic.*

MAED 3040. Topics in Mathematics Education, Middle Grades. (1 to 6) Prerequisite(s): Permission of department. Special topics in mathematics education for middle grades. *May be repeated for credit with change of topic.*

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.

MATH 1101. College Algebra with Workshop. (4) Prerequisite(s): Math Placement Level 1 or MATH 0900. 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. 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): Enrollment in 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) Prerequisite(s): Appropriate eligibility level of math placement or placement by the department. Intended for students who plan to take MATH 1241. Functions and graphs, linear and quadratic functions, polynomial and rational functions, exponential and logarithmic functions, trigonometric identities. Students who already have credit for MATH 1120, MATH 1121, or MATH 1241 with grade of C or above may not take MATH 1103 for credit and a grade.

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): Appropriate eligibility level of math placement; MATH 1100 or MATH 1103; or placement by the

department. 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. May not be taken for credit and a grade if credit has been received for MATH 1121 or MATH 1241 with grade of C or above.

MATH 1121. Calculus for Engineering Technology. (3) Cross-listed Course(s): ETGR 2171. Prerequisite(s): MATH 1103 with grade of C or above or MATH ACT 23. 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. May not be taken for credit and a grade if credit has been received for MATH 1120 or MATH 1241 with grade of C or above.

MATH 1165. Introduction to Discrete Structures. (3) Prerequisite(s): ECGR 2103 or ITSC 1212. Propositions and truth tables, sets, permutations and combinations, relations and functions, lattices, and trees.

MATH 1241. Calculus I. (3) Prerequisite(s): Appropriate eligibility level of math placement; MATH 1103 with grade of C or above; or placement by the department. Designed for students majoring in Mathematics, Science, or Engineering. Elementary functions, derivatives and their applications, introduction to definite integrals.

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): Math Level 2 or permission of department. Develops elementary teachers' understanding of essential concepts of real numbers and algebra. Students re-conceptualize their understanding of number systems, operations in these systems, and their properties. Helps develop students' understanding of functions and their applications to real-life situations.

MATH 1341. Mathematics for Elementary Teachers II. (3) Prerequisite(s): MATH 1340 or permission of department. Develops elementary teachers' understanding of fundamental concepts of geometry, measurement, and data. Students re-conceptualize definitions and properties of polygons and polyhedral including the concepts of perimeter, area, surface area, volume, transformation, and congruence and similarity. Helps develop students' understanding of the organization, representation, and analysis of data, measures of central tendency and variation, and basic concepts of probability.

MATH 2050. Topics in Mathematics. (2-3) Prerequisite(s): Permission of department. Topics in mathematics elected to supplement regular offerings at the 2000-level. *May be repeated for credit with permission of department.*

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 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 2228. 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 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 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 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 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): MATH 2164 or permission of department. 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.

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 and MATH 2164 with grades of C or above. 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 or above. Analytic functions, complex integration, calculus of residues, conformal mapping.

MATH 3163. Introduction to Modern Algebra. (3) (W) Prerequisite(s): MATH 1242 and MATH 2164 with grade of C or above or permission of department. 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. 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, MATH 2241, and MATH 2171. Numerical solution of initial value and boundary value problems in ordinary differential equations, direct and iterative methods of solving systems of equations. Selected problems are programmed for computer solution.

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 3228. Financial Mathematics and General Cash Flows. (3) Prerequisite(s): MATH 2228 with grade of C or above, or permission of department. 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 3688. Mathematics Awareness Seminar. (0) Prerequisite(s): Sophomore, Junior, or Senior standing. Visiting speakers, discussion of internships, cooperative education and job opportunities; selected topics in mathematics.

MATH 3689. Mathematics Project Seminar. (1) (0) Prerequisite(s): Senior standing. Oral presentation by the student on an area of mathematics or a mathematical problem.

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 4000. Topics in Foundations or History of Mathematics. (2-3) Prerequisite(s): Permission of department. Topics in the foundations or the history of mathematics 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 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) (0) Prerequisite(s): MATH 2120 or MATH 2241, and STAT 2122 or STAT 2223. 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 4060. Topics in Algebra. (2-3) Prerequisite(s): Permission of department. Topics in algebra 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 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 2241; and 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 2241; and 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 2164 and MATH 3163, or permission of department. Vector spaces over arbitrary fields, linear transformations, canonical forms, and multilinear algebra.

MATH 4181. Introduction to Topology. (3) Prerequisite(s): MATH 2164 with grade of C or above. Topics from set theory and point set topology such as cardinality, order, topological spaces, metric spaces, separation axioms, compactness and connectedness.

MATH 4226. Mathematics of Financial Markets. (3) Cross-Listed Course(s): MATH 5226. Prerequisite(s): MATH 3122 or STAT 3122 with a grade of C or above, or permission of department. A preparatory course for actuarial exam IFM. Topics include: basic derivatives such as forwards and futures contracts, as well as vanilla, exchange, futures and exotic options; general properties of options; the binomial option pricing model; the Black-Scholes option pricing model; option greeks and risk management.

MATH 4228. Actuarial Science IIA. (3) Cross-Listed Course(s): MATH 5228. Prerequisite(s): MATH 3122 or STAT 3122; and MATH 3228 with grade of C or above; or permission of department. Long-Term Actuarial Mathematics. Introduction to long-term insurance; Survival distribution: probability functions, life tables, force of mortality, mortality laws, life expectancy, select mortality; Insurance: continuous and discrete, moments, recursive formulas; Annuities: continuous and discrete, actuarial present and accumulated values, moments, recursive formulas; Premiums: net premiums for continuous and discrete insurances, gross premiums, variance of future loss. This course is the first of two preparatory courses for Actuarial Exam LTAM.

MATH 4229. Actuarial Science IIB. (3) Cross-Listed Course(s): MATH 5229. Prerequisite(s): MATH 4228 with grade of C or above, or permission of the department. Long-Term Actuarial Mathematics. Reserves: net and gross premium reserves, variance of loss; Markov chains: discrete and continuous probabilities, applications to premiums and reserves; Multiple decrement models; Multiple lives: joint life, last survivor, and contingent probabilities; Estimating mortality rates; Pensions and Profit Measures. This course is the second of two

preparatory courses for Actuarial Exam LTAM.

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.

MDGK 2201. Intermediate Modern Greek I. (3) Prerequisite(s): MDGK 1202 or permission of department. Intensive review of elementary grammar, with emphasis on speaking and oral comprehension.

MDGK 2202. Intermediate Modern Greek II. (3) Prerequisite(s): MDGK 2201 or permission of department. Reinforcement and expansion of competence in speaking, understanding, reading, and writing, in a cultural context.

Middle Grades Education (MDLG)

MDLG 3130. The Early Adolescent Learner. (3) Prerequisite(s): MDSK 2100 and 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 to 9) with emphasis on the foundational components, organizational patterns, instructional programs, and integrated curriculum unique to the middle school. Includes 30 hours 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. (12) (O,W) 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.*

MDLG 4471. Middle Grades Clinical Experience. (3) Program of learning activities in the student's level and/or area of academic concentration in an approved school setting (grades 6-9).

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. Inclusive Classrooms. (3) Examines diverse classroom contexts in relation to power, race, class, language, privilege, and equity in U.S schools. Undergraduate teacher education candidates explore effective strategies that meet the academic and socio-emotional needs of English Learners (ELs), populations at risk for school failure, and other diverse student communities. Also provided is an introduction to issues, policies, and strategies for adapting standard instruction for students with disabilities and gifted learners.

MDSK 3150. Research and Analysis of Teaching Middle School Learners. (3) (W) Should be taken in the semester prior to student teaching. Concepts, methods, and practices used by effective teachers in their daily classroom routines, including systematic observation skills, interpretation of observation data, and application of research-based findings. Includes 20 hours of field experiences.

MDSK 3151. Instructional Design and Technology Integration. (3) (W) Introduction to the systematic process of planning for effective instruction, assessment, technology integration, and classroom leadership. Clinical experience required.

MDSK 3160. Learning and Development: Birth through Adolescence. (3) Prerequisite(s): EDUC 1100 or EDUC 2100; SPED 2100; and admission to Teacher Education. Theories of learning and development and a systematic examination of childhood and adolescence, with particular attention to biological, social, and cognitive areas of child development. Includes 10 hours of field experiences.

MDSK 3161. K-12 Curriculum Studies. (3) Prerequisite(s): EDUC 1100 or EDUC 2100; SPED 2100; and admission to Teacher Education. Curriculum planning and development skills with emphasis on relating school content and skills to societal and individual needs, designing and implementing integrated activities, and examining the nature and functions of schools.

MDSK 4100L. Content Pedagogy Lab. (1) Cross-listed Course(s): MDSK 5100L. Prerequisite(s): MDSK 3100; MDSK 3151; MDSK 4210; and 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 within the content area (English, Foreign Language Education, Mathematics, Science, Social Studies). *May be repeated for credit one time.*

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) (W) 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 (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 or Civil Engineering major (C sections are for Civil 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.

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 2156. Design Projects I Laboratory. (2) Prerequisite(s): ENGR 1201, ENGR 1202, MEGR 2141, PHYS 2102, 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 2180. Manufacturing Systems. (3) Prerequisite(s): ENGR 1202, MEGR 2141, and PHYS 2102L, all with grades of C or above; and Engineering major or minor. Corequisite(s): MEGR 2156. 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. The economics of manufacturing are also introduced, including the time value of money, economic analysis, and cost estimating.

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 2299. Introduction to Motorsports Engineering. (1) Prerequisite(s): Admission to BSME Motorsports concentration and Sophomore, Junior, or Senior standing. An examination of various aspects of automotive and motorsports engineering presented by faculty and industry representatives. Participation as a Motorsports Trainee (MT) is required. MT's are assigned to automotive projects on campus and/or with industrial partners.

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 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 3090. Special Topics in Mechanical Engineering. (3) Prerequisite(s): Mechanical Engineering major or permission of department. *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. *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. *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 ot topic.*

MEGR 3097. Special Topics in Biomedical Engineering. (3) Prerequisite(s): Mechanical Engineering major. *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 2171 and PHYS 2101 with grades of C or above; and Engineering major or minor. 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 3131. Introduction to Electronic Materials. (3) Prerequisite(s): PHYS 2102 with grade of C or above; and Engineering major or minor. *Technical Elective.* Electronic materials and devices with examples from crystalline and amorphous semiconductors, junction and MOS devices, thermoelectrics, lasers and super-conductors. Introduction to the quantum mechanics of electrons in solids, electron-atom interactions and energy band model, providing a basis for rationalizing a wide variety of electronic properties.

MEGR 3152. Mechanics and Materials Laboratory. (2) (W) Prerequisite(s): MEGR 2144, MEGR 3121, MEGR 3161 and MEGR 3171L, all with grade of C or above; and Engineering major or minor. 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): ECGR 2161, MEGR 2144, MEGR 2156, and MEGR 2180, all with grades 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): CHEM 1251 or MEGR 1100; MATH 2171; and MEGR 2144; all 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) (W) 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 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 3212. Heat Convection and Compact Heat Exchanger Design. (3) Prerequisite(s): MEGR 3114 and MEGR 3116 with grades of C or above; and Engineering major or minor. *Technical Elective.* Natural, forced internal and external heat convection, heat convection in phase change (boiling and condensation) and design of compact heat exchangers.

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 3112, 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 3222. Machine Analysis and Design II. (3) Prerequisite(s): MEGR 3221 with grade of C or above; and Engineering major or minor. *Technical Elective.* Synthesis of machines and mechanical systems. Analysis, creative design and selection of machines and machine elements.

MEGR 3225. Introduction to Finite Element Analysis. (3) Prerequisite(s): MATH 2171, MEGR 2144, and MEGR 2240 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): ENGR 1202 and MEGR 2156 with grades 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): ENGR 1202 and MEGR 2156 with grades 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 and MEGR 3171 with grades 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.* A hands-on and practical approach to motorsport's data acquisition. Instruction to data analysis and industry leading data analysis software; a survey of motorsports centric sensors, wiring and hardware; discussion of real world applications of data analysis from go-karting to sprint cup racing.

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 3243. Automotive Powertrain Laboratory. (3) Prerequisite(s): MEGR 3210 with grade of C or above; and Engineering major or minor. *Technical Elective.* Applications of test equipment, instrumentation, and data acquisition as applied to the powertrain. Includes ten one-hour labs and a racing engine team tour.

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) (W) 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 3156 and MEGR 3171L with grades of C or above; 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) (0) 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) Pre- or Corequisite(s): MEGR 3112. *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 3112 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 3156, and MEGR 3171L with grades of C or above. 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) (0) 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 3281. Numerical Control of Manufacturing Processes. (3) Prerequisite(s): MEGR 2180 and Engineering major or minor. *Technical Elective.* Fundamental theory and application of numerically controlled machine tools including design principles, elements of machine structure, control systems programming methods. Role of numerical control in flexible manufacturing systems. Two lectures and a two hour lab per week.

MEGR 3282. Statistical Process Control and Metrology. (3) Prerequisite(s): MEGR 2180 with grade of C or above; and Engineering major or minor. *Technical Elective.* Introduction to metrology. Measurement of size, form and surface texture. Introduction to quality control, control charts for attributes and variables, acceptance sampling. Process capability estimation and process control.

MEGR 3283. Metrology and Precision Engineering. (3) Prerequisite(s): MEGR 2180 with a grade of C or above. Principles of precision design and their use in manufacturing and measurement; review of metrology and uncertainty, a case study of precision machine design, mechanical and optical methods of surface texture measurement, measurement of machine tool errors, coordinate metrology and its applications, and the role of vibration analysis in machine design.

MEGR 3299. Professional Development. (1) Prerequisite(s): Engineering major or minor. An examination of various aspects of engineering as a profession. *Graded on a Pass/No Credit basis.*

MEGR 3355. Motorsports Senior Design I. (2) Prerequisite(s): Admission to BSME Motorsports concentration; MEGR 2299, MEGR 3156, and MEGR 3171L, all with grades of C or above. 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) (0) 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 3451. Stationary Power Plant Systems. (3) Prerequisite(s): MEGR 3112, MEGR 3114, and MEGR 3116, all with grade of C or above; and Engineering major or minor. *Technical Elective.* Thermodynamics and heat transfer applied to the analysis and design of stationary power plant systems.

MEGR 3452. Introduction to Nuclear Engineering. (3) Prerequisite(s): MEGR 3112, 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 3156, and MEGR 3171L, all with grades of C or above. 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) (0) 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. *Technical Elective.* 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 3990. Undergraduate Research. (1 to 4) Prerequisite(s): Engineering major or minor, and permission of department. *Technical Elective.* Independent study of a theoretical and/or experimental problem in a specialized area of mechanical engineering. Topics originate from the student or the faculty member supervising the study. *May be repeated for credit.*

MEGR 4090. Special Topics in Mechanical Engineering. (3) Cross-listed Course(s): MEGR 5090. Prerequisite(s): Mechanical Engineering major. *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 4092. Special Topics in Motorsports Engineering. (3) Cross-listed Course(s): MEGR 5092. Prerequisite (s): Mechanical Engineering major. *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) Cross-listed Course(s): MEGR 5094. Prerequisite (s): Mechanical Engineering major. *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) Cross-listed Course(s): MEGR 5097. Prerequisite (s): Mechanical Engineering major. *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) Cross-listed Course(s): MEGR 5098. Prerequisite(s): Mechanical Engineering major. *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 4112. Intermediate Fluid Mechanics and Vehicle Aerodynamics. (3) Prerequisite(s): MEGR 3111 and MEGR 3114 with grades of C or above; and Engineering major or minor. *Technical Elective.* A continuation of MEGR 3114. Topics include: flow over body surfaces, lift and drag, boundary layers, ground effect, potential flow theory and compressible flow. Application of aerodynamics to ground vehicles and its effect on vehicle performance and handling.

MEGR 4113. Energy Conversion I. (3) Prerequisite(s): MEGR 3112 and MEGR 3114 with grades of C or above; and Engineering major or minor. *Technical Elective.* Application of principles of thermodynamics, fluid flow and heat transfer to internal combustion engines, compressors,

turbines, heat exchanges, refrigeration, and cryogenics.

MEGR 4127. Introduction to Robotics. (3) Prerequisite(s): Senior standing and Mechanical Engineering major. *Technical Elective.* Modeling of industrial robots, homogeneous transformations, static forces, kinematics, velocities, dynamics, computer animation of dynamic models, motion trajectory planning, and introduction to vision, sensors and actuators.

MEGR 4131. Solid State Transformations. (3) Prerequisite(s): MEGR 3161 with grade of C or above; and Engineering major or minor. *Technical Elective.* Thermodynamics, morphology and kinetics of solid state transformations. Diffusion and absolute reaction rate theory; crystallographic nature of phase transformations; nucleation and growth processes; precipitation and oxidation reaction.

MEGR 4143. Discrete Mechanical Vibrating Systems. (3) Prerequisite(s): MEGR 3122 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 4144. Intermediate Dynamics. (3) Prerequisite(s): MEGR 3121 and MATH 2171 with grades of C or above; and Engineering major or minor. *Technical Elective.* Further studies in dynamics of particles and rigid bodies, with engineering applications. Introduction to Lagrange's equations of motion. Multi-degree-of-freedom vibrations.

MEGR 4162. Materials Production and Process. (3) Prerequisite(s): MEGR 3161 with grade of C or above; Engineering major or minor; and permission of instructor. *Technical Elective.* Applications of thermodynamics and chemistry to extractive process metallurgy. Fundamental principles of materials forming operations. Casting, mechanical working and joining methods.

MEGR 4165. Introduction to Nondestructive Evaluation Methods. (3) Prerequisite(s): MEGR 3161 with grade of C or above; and Engineering major or minor. *Technical Elective.* Nondestructive evaluation principles and techniques, including liquid penetrate, magnetic particle, acoustic emission, ultrasound, radiography and eddy currents.

MEGR 4210. Automotive Powerplants. (3) Cross-listed Course(s): MEGR 5210. Prerequisite(s): Mechanical Engineering major and MEGR 3112 with grade of C or above. The engineering principles governing internal combustion engine theory, design, and applications.

MEGR 4211. Road Vehicle Dynamics. (3) Cross-listed Course(s): MEGR 5211. Prerequisite(s): Mechanical Engineering major and MEGR 3122 with grade of C or above. *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 4235. Waves and Optics. (3) Cross-listed Course(s): MEGR 5235 Prerequisite(s): Mechanical Engineering major; and MATH 2171 and MEGR 3122 with grades of C or above. *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) Cross-listed Course(s): MEGR 5237. Prerequisite(s): Mechanical Engineering major and MEGR 3122 with grade of C or above. Fundamentals of classical control analysis and design. Topics include: modeling and analyzing control systems; design of automatic controllers.

MEGR 4240. Advanced Automotive Powerplants. (3) Cross-listed Course(s): MEGR 5240. Prerequisite(s): MEGR 4210 and Mechanical Engineering major. *Technical Elective.* Advanced engineering principles governing internal combustion engine theory, design, and application.

MEGR 4242. Applied Vehicle Aerodynamics. (3) Cross-listed Course(s): MEGR 5242. Prerequisite(s): MEGR 2240 and MEGR 3114 with grades of C or above; and Mechanical Engineering major. 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) Cross-listed Course(s): MEGR 5244. Prerequisite(s): MEGR 2144 with grade of C or above; and Mechanical Engineering major. 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) Cross-listed Course(s): MEGR 5272. Prerequisite(s): MEGR 2144 with grade of C or above; and Mechanical Engineering major. 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) Cross-listed Course(s): MEGR 5271. Prerequisite(s): Mechanical Engineering major and MEGR 2144 with grade of C or above. 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) Cross-listed Course(s): MEGR 5273. Prerequisite(s): Mechanical Engineering major; and MEGR 2156, MEGR 2180, or MEGR 2279, with grade of C or above. 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) Cross-listed Course(s): MEGR 5274. Prerequisite(s): MEGR 2156, MEGR 2180, or MEGR 2279, with grade of C or above; and Mechanical Engineering major. 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) Cross-listed Course(s): MEGR 5280. Prerequisite(s): Mechanical Engineering major; and MEGR 2144, MEGR 2156, and MEGR 2180 with grades of C or above. Detailed analytical treatment of manufacturing materials, processes and procedures. Forming processes, casting processes, metal cutting processes, tool materials, joining processes, automation, and economics.

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 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. 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 3252. Weather Analysis Laboratory. (1) Pre- or Corequisite(s): METR 3245 and permission of instructor. Topics related to atmospheric observation, data collection, analysis, and techniques of weather forecasting. *May be repeated for credit.*

METR 3330. Weather Forecasting. (3) (W) Prerequisite(s): METR 3245 or permission of instructor. Focuses on weather forecasting: real-time, short-term, and long-term. V erification techniques are studied. Three hours of combined lecture and lab per week.

METR 3340. Weather Communications. (3) Pre- or Corequisite(s): METR 3245 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 4150. Applied Climatology. (3) (W) Prerequisite(s): METR 3250 or permission of instructor. Methods of acquiring and analyzing climactic data in various types of applied problems. Emphasis on methods to assess and reduce the impact of weather and climate upon human activities. Three hours of combined lecture and lab per week.

METR 4205. Climate Dynamics. (3) Prerequisite(s): ESCI 3101 and METR 4105 with grade of C or above. Pre- or Corequisite(s): METR 3250 or permission of instructor. Topics include: global climate, climate variability, and dynamics within the climate system, with a focus on the role of the atmosphere in the climate system. El Niño provides the main

example of how climate variability can affect weather, and seasonal weather forecasting. Three hours of combined lecture and lab per week.

METR 4220. Atmospheric Chemistry. (3) Prerequisite(s): MATH 1242 with grade of C or above, or permission of instructor. A survey of major topics in atmospheric chemistry, including fundamental properties of the atmosphere, tropospheric chemistry, air pollution, acid rain, stratospheric chemistry and the ozone hole, and the role of chemistry in the Earth's climate. Three hours of combined lecture and lab per week.

METR 4240. Boundary-Layer Meteorology. (3) Prerequisite(s): METR 3210 or permission of instructor. Examines the flow of mass, energy, and moisture within the planetary boundary layer, including their exchange at the earth's surface and theories of interaction. Includes principles of air pollution and its transport. Interaction of the atmosphere with underlying surfaces (i.e., soils, vegetation, oceans, glaciers) are also discussed. Three hours of combined lecture and lab 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.

METR 4650. Meteorology Seminar. (1) (0) 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) Cross-listed Course(s): ECON 3170. 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) Cross-listed Course(s): ECON 3107. 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 or International Business 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 or ENTR 3276. 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. (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 above.) 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. 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 and MGMT 3282 with grades 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 3220. Digital Marketing and Web Analytics. (3) Prerequisite(s): Marketing 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 grade of C or above, and completion of at least three additional marketing courses 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 the ethical, legal, and instructional issues related to diversity in the classroom. A minimum of ten hours of community service is required.

MUED 2141. Music Development and Learning. (2) Prerequisite(s):

MUED 2200. Teaches music educators how to deliver developmentally appropriate music instruction in grades K-12. Students will explore and manipulate teaching strategies through various researched perspectives of: (1) developmental learning theory; (2) music acquisition/learning theories; and (3) teaching music to students with special needs. A field component of ten hours minimum is required.

MUED 2200. Foundations of Music Education. (2) Prerequisite(s): MUED 2100. Introduction to the social, historical, and philosophical foundations of music education, major issues in American education, music education research, and instruction planning in music education. A minimum of ten hours of community service is required.

MUED 4190. Choral Methods. (2) Prerequisite(s): MUSC 2400, MUSC 3135, and MUSC 4137. Corequisite(s): MUED 4190L. Rehearsal techniques, repertoire, and administration of school choral programs.

MUED 4190L. Choral Methods Lab. (1) Prerequisite(s): MUSC 2400. Corequisite(s): MUED 4190. Application of rehearsal methods with collegiate and public school choral ensembles. 10 hours of additional outside fieldwork 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. Primary focus on elementary school general music, but extends into teaching general music and non-performance based music courses in grades 6-12. Students experience current school music theories and approaches to general music teaching. Materials are also explored and discussed.

MUED 4192L. General Music Methods Lab. (1) Prerequisite(s): MUSC 2400. Corequisite(s): MUED 4192. Clinical application of general music teaching concepts in the public school setting. A minimum of 10 hours in the field are required.

MUED 4194. Instrumental Methods. (2) Prerequisite(s): MUSC 1223, MUSC 1225, MUSC 1227, MUSC 1229, and MUSC 3136. Corequisite(s): MUED 4194L. Rehearsal techniques, repertoire, teaching strategies, methods, and materials of teaching and administrating an instrumental music program in the public school.

MUED 4194L. Instrumental Methods Lab. (1) Pre- or Corequisite(s): Four semesters of MUPF 1117. Corequisite(s): MUED 4194. Clinical application of rehearsal methods with collegiate and public school instrumental ensembles. A minimum of 10 hours in the field are required.

MUED 4270. 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. A minimum of 10 hours of clinical experience observing and teaching students with special needs is required.

MUED 4467. Student Teaching/Seminar: K-12 Music. (12) (W) Prerequisite(s): Approved 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.*

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 1121. Chamber Singers. (1) Prerequisite(s): audition. A highly-select mixed ensemble that ranges in size from 15 to 26 voices. This ensemble specializes in virtuosic literature from the Renaissance, Early Baroque, and Contemporary periods. Open to all UNC Charlotte students. A full-year commitment is expected. *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 1133. Flute Quartet. (1) Prerequisite(s): Permission of instructor. A performing ensemble that focuses on the flute quartet 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 1150. Honors Percussion Ensemble. (1) Prerequisite(s): Audition. An advanced performing ensemble that focuses on the percussion ensemble 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 1152. Mallet Keyboard Ensemble. (1) Prerequisite(s): Permission of instructor. A performing ensemble that focuses on the mallet keyboard repertoire. *May be repeated for credit.*

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 1175. Vocal Jazz Ensemble. (1) Prerequisite(s): Permission of instructor. A small performing ensemble that focuses on vocal jazz repertoire and improvisation. *May be repeated for credit.*

MUPF 1199. Vocal Chamber Music. (1) Prerequisite(s): Permission of instructor. A performing ensemble that focuses on the vocal chamber music repertoire. *May be repeated for credit.*

MUPF 1240. Applied Music: Euphonium. (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 1241. Applied Music: Trumpet. (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 1242. Applied Music: French Horn. (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 1243. Applied Music: Trombone. (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 1244. Applied Music: Tuba. (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 1245. Applied Music: Guitar. (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 1246. Applied Music: Harp. (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 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 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 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. Structure and Style of Music I. (2) Prerequisite(s): Music major or minor; and MUSC 1100 with grade of C or above, or permission of instructor. Corequisite(s): MUSC 1230L and MUSC 1233, or permission of instructor. The study of basic music theory, including the analysis of diatonic harmony, two-part counterpoint, and the fundamentals of part-writing.

MUSC 1230L. Aural Skills and Sight-Singing I. (1) Prerequisite(s): Music major or minor; and MUSC 1101 with grade of C or above, or permission of instructor. Corequisite(s): MUSC 1230 and MUSC 1233, or permission of instructor. This is a lab course for MUSC 1230. It contains the practical application of material from MUSC 1230, as well as rhythms through simple and compound meters.

MUSC 1231. Structure and Style of Music II. (2) Prerequisite(s): MUSC 1230 with grade of C or above, or permission of instructor. Corequisite(s): MUSC 1231L and MUSIC 1234, or permission of instructor. The continued study of basic music theory, including harmonic sequences, phrase and period structures, and simple forms.

MUSC 1231L. Aural Skills and Sight-Singing II. (1) Prerequisite(s): MUSC 1230L with grade of C or above, or permission of instructor. Corequisite(s): MUSC 1231 and MUSC 1234, or permission of instructor. This is a lab course for MUSC 1231. It contains the practical application of material from MUSC 1231, as well as rhythms through simple and compound meters with varying subdivisions.

MUSC 1233. Class Piano I. (1) Prerequisite(s): Music major or minor; and MUSC 1100 with grade of C or above, or permission of instructor. Corequisite(s): MUSC 1230 and MUSC 1230L, 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 and MUSC 1231L, 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 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 2151. 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 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. Structure and Style of Music III. (2) Prerequisite(s): MUSC 1231 with grade of C or above, or permission of instructor. Corequisite(s): MUSC 2230L or permission of instructor. The study of intermediate music theory, including chromatic harmony, modulation, and simple forms.

MUSC 2230L. Aural Skills and Sight-Singing III. (1) Prerequisite(s): MUSC 1231L 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 practical application of material from MUSC 2230, as well as cross-rhythms involving duplets and triplets.

MUSC 2231. Structure and Style of Music IV. (2) Prerequisite(s): MUSC 2230 with grade of C or above, or permission of instructor. Corequisite(s): MUSC 2231L or permission of instructor. The continued study of intermediate music theory, including advanced chromaticism, largescale forms, and an introduction to serialism and basic set theory.

MUSC 2231L. Aural Skills and Sight-Singing IV. (1) Prerequisite(s): MUSC 2230L with grade of C or above, or permission of instructor. Corequisite(s): MUSC 2231 or permission of instructor. This is a lab course for MUSC 2231. The practical application of material from MUSC 2231, as well mixed meters and advanced cross-rhythms.

MUSC 2233. Class Piano III. (1) Prerequisite(s): MUSC 1234 with grade of C or above, or permission of instructor. Corequisite(s): MUSC 2230 and MUSC 2230L, 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. Corequisite(s): MUSC 2231 and MUSC 2231L, or permission of instructor. This is a lab course for MUSC 2231. 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 1231 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, MUSC 1231, and MUSC 1231L; 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 2271. Fundamental Recording Techniques. (1) Prerequisite(s): Permission of department. Provides music majors with a comprehensive and well-rounded education in fundamental areas of audio recording. Open to all music majors and other majors by permission of instructor.

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 3130. Counterpoint. (2) Prerequisite(s): MUSC 2231 and MUSC 2231L, both with grade of C or above, or permission of instructor. A detailed study of contrapuntal styles of the 16th and 18th centuries through extensive exploration of melodic, harmonic and rhythmic designs with an emphasis on the composition of motets, inventions, and fugues.

MUSC 3134. Fundamentals of Conducting. (2) Prerequisite(s): MUSC 2230 and MUSC 2230L with grades 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. Music History I. (3) (W) Prerequisite(s): Music major, and MUSC 2230 and MUSC 2230L with grades of C or above, or permission of instructor. The intensive study of the development of ideas and styles in the western musical tradition from Classical Antiquity through the Baroque Period.

MUSC 3171. Music History II. (3) (O) Prerequisite(s): MUSC 2231 and MUSC 2231L with grades of C or above, or permission of instructor. The intensive study of the development of ideas and styles in the western musical tradition from the Classical period 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 2231 and MUSC 2231L, both with grade of C or above, 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 4049. Violin Literature. (3) Prerequisite(s): MUSC 2231 and MUSC 2231L, both with grade of C or above, or permission of instructor. An analysis course focusing on the major repertoire for the violin. Methodologies will include both historical and structural analysis of violin compositions from the seventeenth century through the present.

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 2231 and MUSC 2231L, both with grade of C or above, 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 2231 and MUSC 2231L, both with grade of C or above, 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 2231 and MUSC 2231L, both with grade of C or above, 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 2231 and MUSC 2231L, both with grade of C or above, 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 2231 and MUSC 2231L, both with grade of C or above, 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 2231 and MUSC 2231L, both with grade of C or above, 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 2231 and MUSC 2231L, both with grade of C or above, 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 2231 and MUSC 2231L, both with grade of C or above, 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) (W) Prerequisite(s): MUSC 2231 and MUSC 2231L, both with grade of C or above, or permission of instructor. The impact of form and process on the analysis and interpretation of music. A detailed examination of common practice forms such as Binary, Ternary, Rondo, Theme and Variation, and Sonata form.

MUSC 4231. Post-Tonal Processes. (3) Prerequisite(s): MUSC 4230 with grade of C or above or permission of instructor. The study of contemporary music through the implementation of a variety of analytical techniques such as modal analysis, set theory, and serial analysis, including an exploration of contemporary styles including Impressionism, Modernism, Neoclassicism, Post-Serialism, Minimalism, and Neo-Romanticism.

MUSC 4234. Jazz Arranging and Composition. (3) Prerequisite(s): MUSC 2231, MUSC 2231L, and MUSC 2235, all 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 2231 and MUSC 2231L, both with 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) (W) Prerequisite(s): MUSC 2231 and MUSC 2231L, both with 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) (W) 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) (W) 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 4105. Leadership in Healthcare Organizations. (3) Prerequisite(s): NDSS major; RESP 4102 and NDSS 4101 with grades of C or above. Focuses on the theories and practices of leadership in healthcare. Global, social, legal, political, economic, and ethical issues are explored.

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) (W) 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 3108L. Health Assessment Lab. (0) Prerequisite(s): Admission to the RN-BSN Program. 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) (0) 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 culturally diverse individuals, families, and populations within communities with emphasis on the nurse's role in health promotion and maintenance. Particular focus on risk identification and reduction throughout the life span.

NURN 4450. Design and Coordination of Care. (6) (W) 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 2201. Communication in Caring Relationships. (2) Prerequisite(s): Pre-Nursing major; Sophomore, Junior, or Senior standing; ANTH 1101 or SOCY 1101; PSYC 1101; and WRDS 1103 or WRDS 1104 with a grade of C or above. Introduction to essential communication competencies within the context of helping relationships. Emphasis is on communication processes, cultural competence, and skills in a therapeutic relationship.

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 change topic, develop a PICOT question, conduct a review of the literature, and initiate a plan for implementing a small test of change. 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 and/or 4090 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 4090. International Comparative Health Systems. (3) Cross-listed Course(s): HLTH 4090. 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.*

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 4191. Women's Health Issues. (3) Cross-listed Course(s): WGST 4191. Prerequisite(s): WGST 1101 or permission of instructor. Exploration of contemporary issues in women's health from the feminist and women's health movement perspectives.

NURS 4193. Professional Communication: Clinical Decision Making and Ethical Reasoning. (3) Prerequisite(s): Admission to the major. Provides students with skills needed to interact with clients, families, and other health professionals. A variety of communication strategies that facilitate more effective functioning as a professional are explored. Experiential activities and online seminars are designed to enhance awareness of personal and professional values in relation to ethical questions in practice. Students are challenged to synthesize communication strategies based on principles from nursing, psychology, communications and other disciplines.

NURS 4194. Building Community Response to Domestic Violence. (3) Open to non-nursing majors. Emphasizes an understanding of professional helping roles in the prevention and intervention of domestic violence. The course emphasizes the importance of a "community" response to domestic violence that includes the role of law enforcement, healthcare, men's treatment, and women's shelter and advocacy programs.

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 from a perspective of social justice. Focuses on health indicators and risk reduction in diverse 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) (0) 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 diverse 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) (W) 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 3401. Operations and Supply Chain Management 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 six credit hours.

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 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; MATH 2164; and MATH 3122, STAT 2122, STAT 3122, or STAT 3128; or permission of department. Queuing models, inventory models, simulation, markov chains, decision analysis, game theory and probabilistic dynamic programming.

OPRS 4010. Topics in Decision Mathematics. (2-3) Prerequisite(s): Permission of department. Topics in decision mathematics 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.

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 1001. Philosophy of Death and Dying. (3) Introduces students to the field of philosophy via the theme of death and dying. Examines the meaning(s) of death and dying and how one's attitude toward death could be connected to living a good life. Includes both historical (e.g., Plato, Tolstoy, Camus, and Beauvoir) and contemporary perspectives in bioethics on death and dying. Topics in bioethics may include: euthanasia, physician assisted suicide, brain death, and end-of-life care such as hospice and palliative care.

PHIL 1002. Philosophy of Love and Sex. (3) Introduces students to the field of philosophy via the topic of love and sex. Includes both historical (e.g., Plato, Augustine, and Freud) and contemporary perspectives on love and sex. Topics may include: monogamy, homosexuality, bisexuality, intersexuality, sexual perversion and

normality, masturbation, rape, prostitution, gay marriage, and pornography.

PHIL 1101. Introduction to Philosophy. (3) Exploration of some of the basic problems that have shaped the history of philosophy (truth, knowledge, justice, beauty, etc.) and remain relevant to students today on personal and professional levels. Readings will range from classical to contemporary texts by a variety of philosophers representing diverse perspectives on these problems. Please see the descriptions in Banner attached to each section to appreciate the different ways this course is taught every semester. *Notes: While PHIL 1101 or PHIL 1102 are not prerequisites for courses at the 3000-level and above, students who have taken PHIL 1101 or PHIL 1102 typically benefit more from upper-level philosophy courses than students who have not. This course contains the same content as PHIL 1102, but does not fulfill the General Education writing goal. Students can receive credit for either PHIL 1101 or PHIL 1102, but not both.*

PHIL 1102. Introduction to Philosophy - Writing Intensive. (3) (W) Exploration of some of the basic problems that have shaped the history of philosophy (truth, knowledge, justice, beauty, etc.) and remain relevant to students today on personal and professional levels. Readings will range from classical to contemporary texts by a variety of philosophers representing diverse perspectives on these problems. Please see the descriptions in Banner attached to each section to appreciate the different ways this course will be taught every semester. Makes substantial use of writing as a tool for learning. *Notes: While PHIL 1101 or PHIL 1102 are not prerequisites for courses at the 3000-level and above, students who have taken PHIL 1101 or PHIL 1102 typically benefit more from upper-level philosophy courses than students who have not. This course contains the same content as PHIL 1101, but fulfills the General Education writing goal. Students can receive credit for either PHIL 1101 or PHIL 1102, but not both.*

PHIL 1105. Critical Thinking. (3) (W) 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. *Note: This course contains the same content as PHIL 1106, but fulfills the General Education writing goal. Students can receive credit for either PHIL 1105 or PHIL 1106, but not both.*

PHIL 1106. Critical Thinking. (3) Cross-listed Course(s): LEGL 1106. 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. *Note: This course contains the same content as PHIL 1105, but does not fulfill the General Education writing goal. Students can receive credit for either PHIL 1105 or PHIL 1106, but not both.*

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 3010. 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 3020. Modern Philosophy. (3) Modern philosophic and scientific thought from Descartes to Kant. Readings selected from representative works in the 17th and 18th centuries.

PHIL 3030 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 3110. Medieval Philosophy. (3) Western philosophical tradition from Augustine to William of Ockham. Readings include such other authors as Anselm of Canterbury, Bonaventure, Thomas Aquinas, and Duns Scotus.

PHIL 3120. 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 3130. 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 3140. 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 3170. 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 3190. Topics in History/Genealogy. (3) Specific topics in the history/genealogy of philosophy. *May be repeated for credit with permission of department.*

PHIL 3210. 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 3220. 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 3230. 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 3239. Ethics Bowl Prep. (3) (O,W) Cross-listed Course(s): LEGL 3239. Prerequisite(s): WRDS 1103 or WRDS 1104 with a grade of C or above. Preparation for participation on the University's Ethics Bowl Team. Training in ethical theory and argumentation. Oral and written practice, both individually and collaboratively, presenting sample case studies.

PHIL 3240. Ethics Bowl. (3) (O,W) Prerequisite(s): PHIL 3239. Students prepare for and participate in the Mid-Atlantic Regional Ethics Bowl competition. Students intensively research cases (developed by the Intercollegiate Ethics Bowl), and work both collaboratively and individually on written case analyses. Significant amounts of in-class time scrimmaging and working on public-speaking and oral communication skills.

PHIL 3246. Ethics Bowl II. (1) Pre- or Corequisite(s): PHIL 3240. Students who have previously competed in the Mid-Atlantic Regional Ethics Bowl prepare for and participate in the Mid-Atlantic Regional Ethics Bowl competition and/or the National Intercollegiate Ethics Bowl. *May be repeated for credit.*

PHIL 3310. IT Ethics. (3) Looks at ethical issues that emerge in the context of new technologies. We will combine a study of traditional moral theories with a look at how those theories might help us understand some of the many challenges presented by contemporary technologies. Topic areas may include privacy/surveillance, intellectual property (things like cell patents, peer-to-peer file sharing, etc.), and genetically modified foods.

PHIL 3320. Engineering Ethics. (3) Familiarizes students with the ethical and social dimensions of professional engineering practice. The course is built around discussions of: (1) some of the classical philosophical theories (Utilitarianism, Respect for Persons, etc.), (2) concepts and techniques for breaking down complicated scenarios (factual, conceptual, etc.), (3) typical problem areas such as professional integrity and responsibility, risk analysis, and the conflict between engineers and managers, (4) case studies and special focus on classic cases (Columbia and Challenger disasters, etc.), and (5) various ethical codes of the engineering profession (electrical, mechanical, petroleum, etc.). Emphasis on the enhancement of skills in critical thinking and effective communication in professional engineering.

PHIL 3330. Philosophy and Literature. (3) Discussion and analysis of the classic and contemporary philosophical themes in literature, the literary dimensions of philosophy (e.g., Platonic dialogues and the modern essay), the role of philosophy in the development of literary theory, the effects of changes in literature on philosophy (e.g., new narrative structures in both fields), and the like. Readings will range from the classical (e.g., Plato, Montaigne, Kierkegaard, and Nietzsche) to the contemporary (e.g., Adorno, Derrida, Eco, and Nussbaum).

PHIL 3340. Business Ethics. (3) Ethical problems confronting business as a social institution and individuals in business. Application of ethical theory to business institutions and practices, internal exchanges of business (e.g., hiring, promotions, working conditions, employer/employee rights and duties) and external exchanges (e.g., product safety, environment, depletion, marketing, advertising.) Emphasis is on the role of critical thinking about and in business.

PHIL 3390. Topics and Ethics/Aesthetics. (3) Specific topics in Ethics/Aesthetics. *May be repeated for credit with permission of department.*

PHIL 3410. 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 3420. 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 3430. Mind, Cognition, and Behavior. (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 3480. 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 3510. Advanced Logic. (3) Cross-listed Course(s): LEGL 3510.

Advanced systems of logic, with emphasis upon symbolic logic and formal systematic characteristics such as axiomatics and proof techniques.

PHIL 3520. Philosophy of Science. (3) Questions concerning scientific knowledge and methods and their relation to technology, metaphysics, history/sociology, and interdisciplinary connections. "Science" is construed broadly to imply a connection with all systematic inquiry, either past or present, into natural or social questions. Particular topics may include the nature of theories, models, observations, predictions, and the conditions of progress.

PHIL 3530. 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 3590. Topics and Knowledge/Language. (3) Specific topics in the Knowledge/Language. *May be repeated for credit with permission of department.*

PHIL 3600. Practicum in Philosophy. (1 to 3) Prerequisite(s): Permission of department. Directed individual study involving the student and instructor in rethinking and reworking some major problems in the teaching of undergraduate philosophy, including interaction with a particular course, usually PHIL 1105, 2101/2102, or 2105, in the preparation, presentation, and evaluation of the course. (Not for teacher licensure.)

PHIL 3605. Research Methods and Publication. (3) Permission of instructor required. Individual instruction in current methods of research in philosophy through participation in major research project. No more than six hours may apply towards the major in Philosophy.

PHIL 3610. 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 3620. Senior Seminar. (3) (O,W) 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 3791. Honors Thesis. (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 or group inquiry into selected philosophic problems. Exposition and discussion of the results.

PHIL 3810. 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 3820. 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 3830. Philosophy and Race. (3) Cross-listed Course(s): AFRS 3830. 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 3910. Philosophy of War and Peace. (3) Cross-listed Course(s): LBST 2101-H01. The conceptual and historical aspects of violence, terrorism, war, non-violence, justice, and the economic motivations and results, both intended and unintended, associated with these phenomena.

PHIL 3920. Philosophy of Technology. (3) Examination of basic concepts and controversies in philosophical discussions of technology. Issues may include relations between technology and nature (and/or human nature), technological determinism, the prospects for intelligent and/or democratic control of particular technologies, and normative issues such as technological systems of social control.

PHIL 3930. Philosophy of 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 3940. 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 3990. Topics and Identity/Society. (3) Specific topics in Identity/Society. *May be repeated for credit with permission of department.*

PHIL 4190. Advanced Topics in History/Genealogy. (3) Advanced topics in the history/genealogy of philosophy. *May be repeated for credit with permission of department.*

PHIL 4390. Advanced Topics in Ethics/Aesthetics. (3) Advanced study of specific topics in ethics/aesthetics. *May be repeated for credit with permission of department.*

PHIL 4590. 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 4990. 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.*

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 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 *in a previous semester, the student is exempted from taking PHYS 1101L.*

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.*

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. One three-hour laboratory each week.

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 poto 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 2101. Physics for Science and Engineering I. (3) Prerequisite(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. Two laboratory hours each week. 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.

PHYS 2102. Physics for Science and Engineering II. (3) Prerequisite(s): PHYS 2101 and MATH 1242 with grades 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. Two laboratory hours each week. 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.

PHYS 3000. Topics in Physics. (1 to 4) Prerequisite(s): Permission of department. Special topics which are introductory in nature. 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 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) (O,W) 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) (W) 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 Community Education and Service. (3) Prerequisite(s): Junior or Senior standing, acceptance into the internship program and approval by the Physics department. A project oriented, service-learning internship with cooperating community organizations. Does not count as credit toward departmental requirements in physics. *May be repeated for credit one time with permission of 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 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: vector analysis, electrostatics and electric fields in matter. Three lecture hours each week.

PHYS 4232. Electromagnetic Theory II. (3) Prerequisite(s): PHYS 4231 with grade of C or above. A continuation of PHYS 4231. Topics include: magnetostatics, electrodynamics, electromagnetic waves, potentials and fields. Three lecture hours each week.

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) (W) 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.

PHYS 4800. Investigations. (1 to 2) Prerequisite(s): Junior or Senior standing. An independent investigation on a topic approved by the department Undergraduate Studies Committee. *May be repeated for credit up to 4 credits.* No more than two credit hours may be applied toward the degree requirements for "additional hours at the 3000/4000 level."

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.

POLS 1130. Comparative Politics. (3) Introduction to political comparison among nations. Diverse geographical emphases, including Latin America, Europe, Asia, and Africa.

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 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) (W) Prerequisite(s): Political Science major; at least one introductory POLS course and MATH 1100 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) Cross-listed Course(s): GEOG 3110. 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): INTL 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): INTL 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): INTL 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) (O,W) 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 3810. 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 SOCY 3251 or POLS 3251.

POLS 3251. Political Sociology. (3) (O) Cross-listed Course(s): SOCY 3251. 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 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) (O,W) 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) (O,W) 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 4380. 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 4381. Critical Thinking Skills for Intelligence. (3) Cross-listed Course(s): CJUS 4373. 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 4383. 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 4600. Senior Seminar. (3) (O,W) Prerequisite(s): Political Science major, POLS 1110, POLS 1130, 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) (O,W) 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) (O,W) Prerequisite(s): Political Science major; POLS 2220 with a grade of B or above; overall GPA of 3.0 or above; 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 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 3050. Topics in Portuguese. (3) (W) Study of a particular facet of the Portuguese language, culture, or literature. *May be repeated for credit with change of topic.*

PORT 3051. Topics in Portuguese. (1 to 3) Study of a particular facet of the Portuguese language, culture, or literature. *May be repeated for credit with change of topic.*

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 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 3101. Project Management: Foundations. (1) 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 3102. Project Management: Practitioner. (1) Prerequisite(s): Professional Studies major or permission of department. 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 3103. Project Management: Specialist. (1) Prerequisite(s): Professional Studies major or permission of department. 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 3201. 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 3202. Leadership Essentials: Practitioner. (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 Practitioner level includes the art of delegation and time management.

PROS 3203. Leadership Essentials: Specialist. (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 Specialist level includes emotional intelligence and creating a high performance culture.

PROS 3301. Human Resource Management: Foundations. (1) 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 3302. Human Resource Management: Practitioner. (1) 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 Practitioner level includes employee engagement, employee relations, and compensation.

PROS 3303. Human Resource Management: Specialist. (1) 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 Specialist level includes change management and organization development.

PROS 4600. Professional Studies Capstone. (1 to 3) 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 2100. 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 2101. Research Methodology I. (3) Prerequisite(s): Psychology major; and PSYC 1101 and STAT 1220, STAT 1221, or STAT 1222 with grades of C or above. 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 to continue in the Psychology major.

PSYC 2103. Research Methodology II. (3) (W) Prerequisite(s): Psychology major; and PSYC 1101; PSYC 2101; and STAT 1220, STAT 1221, or STAT 1222; all with grades of C or above within two attempts. 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.

PSYC 2104. Critical Thinking About Research. (3) (W) Prerequisite(s): PSYC 1101; PSYC 2101; and STAT 1220, STAT 1221, or

STAT 1222 with grades of C or above within two attempts. 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.

PSYC 2110. 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 2112. Introduction to Behavior Modification. (4) Prerequisite(s): PSYC 1101 with grade of C or above. Methods and constructs of behavior modification, including the application of the methods to laboratory research. Three lecture hours and one two-hour laboratory period a week.

PSYC 2113. Introduction to Brain and Behavior. (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 2120. Child Psychology. (3) Prerequisite(s): PSYC 1101 with grade of C or above. Psychological development in infancy and childhood, including such topics as biological change, learning, thought, language, social relations, intelligence, and morality.

PSYC 2121. Adolescent Psychology. (3) Prerequisite(s): PSYC 1101 with grade of C or above. Developmental and psychological characteristics of adolescents, with emphasis on the developmental transitions, social contexts, and problems of adolescence.

PSYC 2124. Psychology of Adult Development and Aging. (3) Cross-listed Course(s): GRNT 2124. Prerequisite(s): PSYC 1101 with grade of C or above. 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 2126. Introduction to the Psychology of Women and Gender. (3) Cross-listed Course(s): WGST 3226. 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. Topics include: gender-role development, gender differences in cognitive abilities and performance, psychological perspectives on women's physical and mental health, and violence toward women.

PSYC 2130. Introduction to Social Psychology. (3) Prerequisite(s): PSYC 1101 with grade of C or above. 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 2131. Introduction to Forensic Psychology. (3) Cross-listed Course(s): LEGL 2131. Prerequisite(s): PSYC 1101 with grade of C or above. 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 2137. Introduction to Positive Psychology. (3) Prerequisite(s): PSYC 1101 with grade of C or above. 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 2150. Psychology of Adjustment. (3) Prerequisite(s): PSYC 1101 with grade of C or above. 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 2151. Abnormal Psychology. (3) Prerequisite(s): PSYC 1101 with grade of C or above. A history of psychopathology. Case studies, differential diagnosis, psychological dynamics of abnormal behavior, including theoretical, clinical, and experimental contributions in the field.

PSYC 2155. Psychological Approaches to Diversity. (3) Prerequisite(s): PSYC 1101 with grade of C or above. Examines processes and consequences of stereotyping of different cultures and demographic subgroups (e.g., disabled and racial/ethnic groups) and their social implications.

PSYC 2160. Introduction to Health Psychology. (3) Prerequisite(s): PSYC 1101 with grade of C or above. Introduction to the contributions of the discipline 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 2165. Introduction to Community Psychology. (3) Prerequisite(s): PSYC 1101 with grade of C or above. 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 2171. Introduction to Industrial/ Organizational Psychology. (3) Prerequisite(s): PSYC 1101 with grade of C or above. 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 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 3002. Topics in Psychological Research. (3) (W) Prerequisite(s): PSYC 1101, PSYC 2101, and PSYC 2103 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 3111. Psychology of Learning and Memory. (3) Prerequisite(s): PSYC 1101 and PSYC 2113 with grades of C or above; PSYC 2103 is also strongly recommended. A consideration of major theories and research results related to learning and memory in humans and animals.

PSYC 3113. Physiological Psychology. (3) Prerequisite(s): PSYC 1101, PSYC 2101, and PSYC 2113 with grades of C or above. The relationship of physiological systems to integrated behavior and an introduction to brain-behavior relationships. Emphasis on neural regulation of behavior.

PSYC 3114. Motivation. (3) Prerequisite(s): PSYC 1101 and PSYC 2101 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 3115. 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 3116. Human Cognitive Processes. (3) Prerequisite(s): PSYC 1101 and PSYC 2113 with grades of C or above, or permission of instructor. Processes involved in such complex human behaviors as language (acquisition and usage), memory, and problem solving, with emphasis upon experimental findings and current theories.

PSYC 3117. Hereditary Behavior. (3) Prerequisite(s): PSYC 1101 and PSYC 2113 with grades of C or above. Genetic and environmental contributions to behavior and psychological processes. History of the nature/nurture issue in psychology; animal and human research methods; statistical analysis of behavior-genetic data; and the heritability of learning ability, intelligence, personality, and psychopathology.

PSYC 3118. Research Methods in Physiological Psychology. (4) Prerequisite(s): PSYC 1101, PSYC 2101, PSYC 2103, and PSYC 3113 with grades of C or above, or permission of instructor. Current laboratory techniques in physiological psychology, including basic surgeries, lesioning, stimulation, recording, and histology. Three lecture hours and one two-hour laboratory period a week.

PSYC 3122. Cognitive and Language Development. (3) Prerequisite(s): PSYC 1101; and PSYC 2113 or PSYC 2120; with grades of C or above. Theory and research on the development of thought and language in children, including such topics as theories of cognitive development, the development of perception, representation of knowledge, memory, language, and problem solving.

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) 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 3135. Psychology of Personality. (3) Prerequisite(s): PSYC 1101 and PSYC 2101 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 3136. 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 3140. Basic Processes in Psychological Assessment. (3) Prerequisite(s): PSYC 1101, PSYC 2101, and PSYC 2103; 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 3152. Child Psychopathology. (3) Prerequisite(s): PSYC 1101, PSYC 2120, and PSYC 2151 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 3153. 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 3172. Psychology of Personnel: Employee Selection and Classification. (3) Prerequisite(s): PSYC 2171 or permission of instructor. Methods, techniques, and procedures used to select and classify employees.

PSYC 3173. Psychological Bases of Training Programs. (3) Prerequisite(s): PSYC 1101 and PSYC 2171, both with grade of C or above, or permission of instructor. Application of alternative theories about adult learning to the development and conduct of training programs in industry. Topics include: how to develop training needs, a description of methods available to trainers such as programmed instruction and sensitivity training, and how to evaluate the effects of various training techniques.

PSYC 3174. 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 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 3313. Neuropsychology. (3) Prerequisite(s): PSYC 1101, PSYC 2101, PSYC 2113, and PSYC 3113 with grades of C or above. Brain function and behavior, especially in individuals believed to be brain damaged (e.g., by stroke, Alzheimer's, or head injury); general principles of brain function and of human neuropsychology, including higher functions (e.g., memory and language); and neuropsychological assessment.

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 3807. Peer Advising. (2) Prerequisite(s): Psychology major, Junior or Senior standing, and GPA greater than 2.75; participation is through competitive selection process, requires commitment for both the Fall and Spring terms. Students selected as Peer Advisors will earn 2 hours of PSYC 3807 credit each term in which they serve. The course activities involve weekly group training sessions; four writing projects pertaining to advising theory and practice; advising students during pre-registration and registration, and attending SOAR, Explore, and Majors Day. Peers also have 1-2 office hours per week, during which they advise students, maintain the informational bulletin boards, and complete other duties as necessary for the PASS Center. Selection is through a competitive application and interview process in February and March. *May be repeated for credit.*

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 4006. Advanced Topics in Psychology. (3) Prerequisite(s): Psychology major; Senior standing; PSYC 1101; PSYC 2101; PSYC 2103 or PSYC 2104; and STAT 1220, STAT 1221, or STAT 1222; all with grades of C or above within two attempts. Examination of special psychological topics. May be used in fulfillment of the capstone requirement for the major.

PSYC 4007. Advanced Topics in Psychological Research. (3) (W) Prerequisite(s): PSYC 2103 or PSYC 2104 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 4103. History and Systems of Psychology. (3) Prerequisite(s): Psychology major; Senior standing; PSYC 1101; PSYC 2101; PSYC 2103 or PSYC 2104; and STAT 1220, STAT 1221, or STAT 1222; all 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. May be used in fulfillment of the capstone requirement for the major.

PSYC 4140. Tests and Measurements. (3) Prerequisite(s): PSYC 1101 and STAT 1220, STAT 1221, or STAT 1222, all with grades of C or above. Psychological and educational measurements in current use with emphasis on structure, administration and application of group tests. Individual tests such as Stanford-Binet, WISC and WAIS will be reviewed.

PSYC 4152. Psychology of Exceptional Children. (3) Prerequisite(s): PSYC 1101 with grade of C or above. Assessing and treating the exceptional child. Emphasis on current research in several diagnostic categories, including the emotionally disturbed, learning disabled, intellectually challenged, physically disabled, and gifted.

PSYC 4316. Cognitive Neuroscience. (3) Prerequisite(s): PSYC 1101 and PSYC 2113 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 4612. Seminar in Behavior Modification. (3) Prerequisite(s): Psychology major; Senior standing; PSYC 1101, PSYC 2101, PSYC 2103, PSYC 2112, PSYC 3112, and STAT 1220, STAT 1221, or STAT 1222, all with grades of C or above within two attempts. Current issues in behavior modification, including an integration of principles, techniques and practical experiences. Emphasizes development of written and oral communication skills.

PSYC 4613. Seminar in Physiological Psychology. (3) (O,W) Prerequisite(s): Psychology major; Senior standing; PSYC 1101; PSYC 2101; PSYC 2103 or PSYC 2104; and STAT 1220, STAT 1221, or STAT 1222; all with grades of C or above within two attempts. (PSYC 3113 or equivalent strongly recommended.) Intensive study of selected topics in

physiological psychology, such as psychopharmacology, biofeedback and self-regulation, and sleeping and waking. Emphasizes development of written and oral communication skills.

PSYC 4619. Seminar in Experimental Psychology. (3) (O,W) Prerequisite(s): Psychology major; Senior standing; PSYC 1101; PSYC 2101; PSYC 2103 or PSYC 2104; and STAT 1220, STAT 1221, or STAT 1222; all with grades of C or above within two attempts. In-depth examination of an area of current concern in the psychological laboratory. Each semester has a different focus such as discrimination, learning, memory, experimental analysis of behavior and attention. Emphasizes development of written and oral communication skills.

PSYC 4625. Seminar in Developmental Psychology. (3) (O,W) Prerequisite(s): Psychology major; Senior standing; PSYC 1101; PSYC 2101; PSYC 2103 or PSYC 2104; STAT 1220, STAT 1221, or STAT 1222; all with grades of C or above within two attempts; and PSYC 2120, PSYC 2121, or PSYC 2124, all with grades of C or above. Concentrated examination of selected current issues and research in a field of developmental psychology. Emphasizes development of written and oral communication skills.

PSYC 4630. Seminar in Social Psychology. (3) (O,W) Prerequisite(s): Psychology major; Senior standing; PSYC 1101; PSYC 2101; PSYC 2103 or PSYC 2104; and STAT 1220, STAT 1221, or STAT 1222; all with grades of C or above within two attempts; and PSYC 2130 with grade of C or above. 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.

PSYC 4650. Seminar in Human Adaptation and Behavior. (3) (O,W) Prerequisite(s): Psychology major; Senior standing; PSYC 1101; PSYC 2101; PSYC 2103 or PSYC 2104; STAT 1220, STAT 1221, or STAT 1222; all with grades of C or above within two attempts; and permission of department. Intensive reading and discussion in selected areas of psychology, such as stress, personality, emotions and psychopathology. Emphasizes development of written and oral communication skills.

PSYC 4655. Seminar in Community Psychology. (3) (O,W) Prerequisite(s): Psychology major; Senior standing; PSYC 1101; PSYC 2101; PSYC 2103; 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) (O,W) Prerequisite(s): Psychology major; Senior standing; PSYC 1101; PSYC 2101; PSYC 2103 or PSYC 2104; STAT 1220, STAT 1221, or STAT 1222; all with grades of C or above within two attempts; and PSYC 2160 with grade of C or above. Detailed examination of issues relevant to health and behavior. Readings and discussion of health-related concepts and controversies current in the professional literature. Emphasizes development of written and oral communication skills.

PSYC 4670. Seminar in Industrial Psychology. (3) (O,W) Prerequisite(s): Psychology major; Senior standing; PSYC 1101; PSYC 2101; PSYC 2103 or PSYC 2104; STAT 1220, STAT 1221, or STAT 1222; all with grades of C or above within two attempts; and PSYC 2171 with grade of C or above. 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.

PSYC 4701. Honors Thesis I. (3) Prerequisite(s): Psychology major; Junior or Senior standing; PSYC 1101, and STAT 1220, STAT 1221, or STAT 1222 with grades of C or above within two attempts; PSYC 2101 and PSYC 2103 with grades of B or above; and permission of instructor. Initiation of independent Honors research, including the preparation and defense of a formal thesis proposal.

PSYC 4702. Honors Thesis II. (3) (O,W) Prerequisite(s): Psychology major; Junior or Senior standing; PSYC 1101, and STAT 1220, STAT 1221, or STAT 1222 with grades of C or above within two attempts; PSYC 2101, PSYC 2103, and PSYC 4701 with grades of B or above; 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. 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 instructional practice related to the reading process and reading instruction in the elementary school with a focus on emergent reading behaviors; phonics and phonemic awareness; assessment-based instruction; and meeting the needs of diverse learners. Includes an extensive field-based component.

READ 3226. Applied Literacy and Practices. (3) Prerequisite(s): Admission to Teacher Education. Research, theory, and instructional practice related to integrating the communication processes with all subject areas with a focus on vocabulary, comprehension, study skills, authentic assessment-based instruction addressing the needs of diverse and struggling readers, and instructional approaches in a reading classroom. 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. Includes a minimum of 10-15 hours of field experience.

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.

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 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) 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 2108. Religion in American Culture. (3) The role of religion in the shaping of American culture. *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 2152. Renouncing the World: Monks, Hermits, and Gurus of Asia. (3) An introduction to the lives of monks, nuns, gurus, and hermits of Asia. By focusing on the beliefs and practices of these renouncers, we gain new understandings of the religions of India, Southeast Asia, the Himalayas, China, and Japan.

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 2158. Bollywood and Religion. (3) Examines how "Bollywood" -- the world's largest cinema industry -- portrays and reveals key aspects of religious tradition found on the Indian subcontinent. Topics include: religious experiences and perspectives with regards to communalism, caste politics, gender constructs, and family structures. Knowledge of any South Asian language is not required, as all films have English subtitles. *Fulfills the [C] or [T] requirement.*

RELS 2160. Demons, Ghosts, and Jinn in Indian Religious Traditions. (3) An introduction to supernatural entities found on the Indian subcontinent. Students discover that ghosts and demons are not mere peripheral religious figures in India, but instead are powerful forces that inform and confront dominant religious orthodoxies. Topics include material from ancient texts to modern folklore and cover a wide range of popular beliefs about what transpires after death, ritual practices used to beckon or repulse these entities, possessions, exorcisms, and communalism. *Fulfills the [C] 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 on the Silver Screen. (3) 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) 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) (O,W) Prerequisite(s): Religious Studies major. 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) (W) 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 3107. The Psalms and Wisdom Literature of Israel. (3) The origin and content of the Psalms and the place of wisdom literature in the development of Hebrew thought. *Fulfills the [H] or [T] requirement.*

RELS 3111. Women in Judaism. (3) Cross-listed Course(s): WGST 3111. A survey of the roles and activities of Jewish women throughout Jewish history as they are portrayed in a diverse sampling of Jewish religious literature and practice. *Fulfills the [H] or [T] requirement.*

RELS 3112. Women in the Hebrew Bible. (3) Cross-listed Course(s): WGST 3050. From Sarah to Tamar, from the Levite's concubine to the mysterious 'wise woman' of Abel, the women in the Hebrew Bible present a far more complicated picture than we expect. This course examines the women of the Hebrew Bible in their cultural context and how their stories have been interpreted, reinterpreted, adapted, and altered.

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) 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): 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 3209. Religion and Literature. (3) An examination of religious themes and questions as presented in contemporary and traditional literature. Focus may be on an artist, genre (novel, poetry, drama), or topic. Although the focus of this course may vary, it may only be taken once for credit. *Fulfills the [C] or [T] 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) (W) 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): 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) Cross-listed Course(s): WGST 3216. 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 3530. 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 3244. Natural, Unnatural, Supernatural. (3) Does God exist? What are God's attributes? Do miracles happen? Is there life after death? Where does evil come from in a world created "good"? What is "the human condition"? This course sets these questions in historical perspective in the West but focuses primarily on answers proposed by modern thinkers.

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. 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 3450. Study Abroad for Religious Studies Majors. (3-6) Prerequisite(s): Permission of department. The examination of an approved topic in the context of study abroad. *Fulfills the [C], [H], or [T] requirement.*

RELS 4000. Seminar 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 4020. Major Text in Religious Studies. (3) A focused examination of an important primary text, or small range of primary texts, in the study of religion. The text may be a sacred text from a religious tradition or a theoretical text important in the study of religion. *May be repeated for credit for different texts. Fulfills the [H] or [T] requirement.*

RELS 4030. Major Period in Religious History. (3) A focused examination of a discreet and important period in religious history. Examines social, political, cultural, artistic, and economic dimensions of a given period with respect to how they shaped, and were shaped by, religion. *May be repeated for credit for different periods. Fulfills the [H] 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 4101. The Other Cheek: From Christian Disdain to the Organized Destruction of Europe Jews. (3) Cross-listed Course(s): HIST 5000 and RELS 5301. Jews as deicides, ritual murderers, agents of Satan, international conspirators, conniving Shylocks, financial manipulators, sub-human - is the western world's collective mythology about Jews a deeply rooted cultural pathology? How does one distinguish prejudice, Jew-hatred, and anti-Semitism, and on what theoretical basis? Did anti-Semitism pre-date the emergence of Christianity? This course addresses these questions and more. In the process, students assess - and perhaps co-create - theories about the nature of European anti-Semitism. *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 4108. Medieval Judaism. (3) Comparative historical and literary study of the varieties of Judaism evidenced in Western Europe, the Byzantine Empire, and Islamicate realms from approximately 640 C.E. to approximately 1492 C.E. *Fulfills the [H] or [T] requirement.*

RELS 4109. Modern Judaism. (3) Historical and conceptual study of Judaism and Jewish experience in Europe, America, and Israel, from the 16th century to the present, with special attention paid to the development of denominations, Zionism, and the Holocaust. *Fulfills the [H] or [T] requirement.*

RELS 4110. Contemporary Jewish Thought. (3) An examination of philosophy, religion, morality, politics, sociality, culture, family, and self-identity in the light of modern and recent Jewish thought. *Fulfills the [C] or [T] requirement.*

RELS 4121. Medieval and Reformation Christianity. (3) An examination of Christian thought and practice from the early Middle Ages (c. 500 CE) through the reformations of the sixteenth century. *Fulfills the [H] or [T] requirement.*

RELS 4125. Witches, Saints, and Heretics. (3) An examination of the categories "normal" and "deviant" as formulated in select cultural traditions. Focus will be on examining constructions of individual identity and cultural boundaries through close reading of primary texts alongside recent films, works of fiction, and scholarly interpretations. *Fulfills the [C] or [T] requirement.*

RELS 4127. Material Christianity. (3) An examination of the ways individuals and groups throughout the Christian tradition have invested material objects with sanctity and power. Much of the course is devoted to exploring theoretical models and theological warrants for practices related to objects. *Fulfills the [C] or [T] requirement.*

RELS 4155. Religion and Social Change in 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 4160. Religion as Social. (3) An examination of theories and approaches which focus on religion as social. Attention is paid to both classical and contemporary social theories of religion. *Fulfills the [C] or [T] requirement.*

RELS 4300. Religion and the Body. (3) An examination of the relationship between religious discourses and practices and the perceptions and experiences of an embodied subject. *Fulfills the [C] or [T] 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 4340. Theories of Sacrifice. (3) An examination of classical and contemporary understandings of the history, meaning, and cultural significance of sacrifice. *Fulfills the [C] or [H] requirement.*

RELS 4400. 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. Required of all honors students. *Fulfills the [C] or [T] requirement.*

RELS 4600. Senior Seminar. (3) (O,W) 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 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) (W) 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 II. (2) Prerequisite(s): RESP 3203. 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 I. (2) 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) (0) 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) (W) 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) (O) 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) (W) 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 4910. Respiratory Therapy Capstone Project. (6) (W) (O) 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) Corequisite(s): RUSS 1201L. Fundamentals of the Russian language, including speaking, listening comprehension, reading, and writing.

RUSS 1201L. Elementary Russian I Lab. (1) Corequisite(s): RUSS 1201. Continuation of class activities regarding the fundamentals of the Russian language, including speaking, listening comprehension, reading, and writing.

RUSS 1202. Elementary Russian II. (3) Prerequisite(s): RUSS 1201 and RUSS 1201L. Corequisite(s): RUSS 1202L. Fundamentals of the Russian language, including speaking, listening comprehension, reading, and writing.

RUSS 1202L. Elementary Russian II Lab. (1) Prerequisite(s): RUSS 1201 and RUSS 1201L. Corequisite(s): RUSS 1202. Continuation of class activities that include fundamentals of the Russian language, including speaking, listening comprehension, reading, and writing.

RUSS 2201. Intermediate Russian I. (3) Prerequisite(s): RUSS 1202 and RUSS 1202L, or permission of department. Corequisite(s): RUSS 2201L. Review of grammar, with conversation and composition based upon readings in Russian culture and civilization.

RUSS 2201L. Intermediate Russian I Lab. (1) Prerequisite(s): RUSS 1202 and RUSS 1202L, or permission of department. Corequisite(s): RUSS 2201. Continued practice to improve fluency in Russian: listening comprehension, speaking, reading, and writing, and to facilitate cultural awareness.

RUSS 2202. Intermediate Russian II. (3) Prerequisite(s): RUSS 2201

and RUSS 2201L, or permission of department. Corequisite(s): RUSS 2202L. Continuation of grammar, conversation, and composition skills, based on readings in Russian literature.

RUSS 2202L. Intermediate Russian II Lab. (1) Prerequisite(s): RUSS 2201 and RUSS 2201L, or permission of the department. Corequisite(s): RUSS 2202. Continued practice to improve fluency in Russian: listening comprehension, speaking, reading, and writing, and to facilitate cultural awareness.

RUSS 3060. Topics in Russian. (3) (W) 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 3204. Masterpieces of Russian Literature. (3) (W) 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) (W) 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 3140. The Adolescent Learner. (3) Characteristics of the adolescent learner, including the impact on the classroom of physical, social, cognitive, moral, vocational, and affective developmental factors and multicultural issues. Field-based activities include observation and tutoring in school and non-school settings; 15 hours of field experiences.

SECD 3141. Secondary Schools. (3) Prerequisite(s): Admission to Teacher Education. Overview of secondary education with emphasis on the foundational components and instructional programs appropriate for contemporary adolescents in American society. Includes 15 hours of field experiences.

SECD 3142. Issues in Secondary Education. (2) Prerequisite(s): Admission to Teacher Education. Corequisite(s): EDUC 4291 and a content methods course. Integration of preservice education and academic concentration coursework in a pre-student-teaching field experience. Students choose from sections of the course that focus on a contextual issue of particular interest while working in a setting where the issue exists. Students may take as many different Issues sections as their schedules permit. Includes 30 hours of field experiences.

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. (12) (0,W) 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) (0) 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) (0) 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) (0) 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 4472. Secondary Education Clinical Experience. (3) Program of learning activities in the student's area of academic concentration in an approved school setting.

Systems Engineering (SEGR)

SEGR 2105. Computational Methods for Systems Engineering I. (3) Prerequisite(s): ENGR 1202 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 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.

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 programming skills. The course culminates upon completion of a hands-on term project.

SEGR 2111. Introduction to Engineering Management. (3) Prerequisite(s): ENGR 1202 with grade of C or above; and Engineering major or minor. Focuses on the fundamentals in engineering management. It provides students the understanding of engineering management principles and practices and the roles of engineering management professionals in a global business environment.

SEGR 2121. Introduction to Logistics Systems and Supply Chains. (3) Prerequisite(s): ENGR 1202 with grade of C or above, 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.

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 use in the analysis and design of systems. The emphasis is on using simulation software for simulation modeling and analysis with practical applications to design, analysis, and improvement of diverse systems.

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. Focuses on the interfacing issues between human, organization, and systems operations. The emphasis is on the influence of human and cultural factors related to the effectiveness of system operations in a global business environment.

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, such as regression, classification, data processing, and model validation.

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 components and challenges of decision making, discusses 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.

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 skills. The emphasis is on both descriptive and prescriptive analytics problems by implementing statistical computing. The course culminates upon completion of a hands-on term project.

SEGR 3111. Project Management. (3) (O,W) Prerequisite(s): STAT 3128 with grade of C or above; 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.

SEGR 3112. Value Engineering Management. (3) Prerequisite(s): SEGR 2106 with grade of C or above or permission of department; and Engineering major or minor. Analyzes the requirements of a project to achieve the highest performance for essential functions at the lowest costs over the life of the project. The "best value" is achieved by a multidisciplinary team effort through the study of alternative design concepts, materials, and methods.

SEGR 3122. Implementation of Logistics Systems and Supply Chains. (3) Prerequisite(s): SEGR 2121 with grade of C or above; and Engineering major or minor. Reviews and analyzes real-life logistics and supply chain implementation cases. Different industry supply chains are compared and benchmarking is emphasized through review of industry best practices.

SEGR 3131. Computer Aided Design and Manufacturing. (3) Prerequisite(s): SEGR 2101 with grade of C or above or permission of department; and Engineering major or minor. Focuses on the basics of hardware and software implementation in the design and manufacturing processes. The emphasis is in making the design and manufacturing processes effective and efficient for global business competition.

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) (0,W) 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) (0,W) 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 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): OPRS 3111 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 4131. Product and Process Design. (3) Prerequisite(s): SEGR 2101 with grade of C or above or permission of department; and Engineering major or minor. Focuses on how to achieve a high-quality, customer-oriented product development process, from technology and product innovation, to design and development, leading up to production. Design for Six Sigma (DFSS) is the main technology discussed plus other product design approaches, such as design for cost, design for safety, and design for environment.

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. Demand forecasting, production scheduling and control systems and introduction to CPM.

SEGR 4132. Automation and Systems Design. (3) Prerequisite(s): SEGR 3132 with grade of C or above; and Engineering major or minor. Focuses on the concepts of systems design, manufacturing systems design, manufacturing process control, shop floor control, and automation. The emphasis is on automation for economic and flexible manufacturing operations that can handle frequently changing global manufacturing requirements.

SEGR 4133. Lean Manufacturing Systems. (3) Prerequisite(s): SEGR 3132 with grade of C or above; and Engineering major or minor. Focuses on the fundamentals of how manufacturing operations work, and talk about the latest techniques to make your manufacturing organization successful. This course discusses how lean methodology can eliminate waste and increase the speed in manufacturing while reducing cycle times.

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. Introduction to various reliability and survival analysis techniques. Topics include: reliability/survival functions, failure/hazard rate functions, reliability testing for single and multivariate distributions, parametric/non-parametric/semi-parametric techniques.

SEGR 4150. Leadership Skills for Engineers. (3) Prerequisite(s): Junior or Senior standing and Engineering major or minor. Overview of the skills needed to practice the most popular leadership styles in industry today. The first half of the course covers an introduction to the different styles of leadership and how they are applied by engineers within an organization. The second half of the course covers the critical leadership skills and competencies needed to build and lead powerful teams in a global environment.

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. Discriminant analysis and ROC curve. Expected value maximization, decision trees,

Bayes' theorem, value of information, Bayesian networks and optimal strategies. Axiomatic utility controversies and prospect theory. Theoretical and empirical determination of utility functions and relationship to human belief network. Brief introduction to multi-attribute problems, time streams, data envelopment analysis, and group decisions. *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. An interdisciplinary approach to principles and practice in the applications of continuous quality improvement (CQI) and Total Quality Management (TQM). Classroom work on major applications, re-engineering processes; process mapping, personal effectiveness and time management; technical presentations; CQI tools, statistical process control, designed experimentation; management and planning tools, engineering economy, and case studies; assignments and projects in team building, communication, and group problem solving.

SEGR 4201. Fundamentals of Deterministic System Analysis. (3) Cross-listed Course(s): EMGT 5201. Prerequisite(s): MATH 2164. The fundamentals of deterministic system analysis. The course is partitioned into three modules: linear algebra and matrix analysis, continuous optimization for linear and nonlinear 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): OPRS 3111 with grade of C or above; Senior standing; and Engineering major or minor. A systems engineering approach will be followed to analyze practical applications from different engineering disciplines and to optimize complex systems. Model formulation, sensitivity analysis, special cases, solutions using commercially available software applications and practical implementation considerations will be emphasized.

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. Smart Grid Optimization. Supplier and customer relationship management, contracts management. Lean-Six Sigma energy system process design. 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 2090. Topics in Sociology. (1 to 3) Examination of specialized topics. *May be repeated for credit with change of topic.*

SOCY 2091. Topics in Sociology - Writing Intensive. (1 to 3) (W) 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 or permission of instructor. 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) (W) 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. Students may not earn credit for both SOCY 2132 and SOCY 2133.

SOCY 2133. Sociology of Marriage and Family - Writing Intensive. (3) (W) 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. Students may not earn credit for both SOCY 2132 and SOCY 2133.

SOCY 2161. Sociological Social Psychology. (3) Prerequisite(s): SOCY 1101 or permission of instructor. 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) (W) 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) Prerequisite(s): SOCY 1101 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 2171. Social Problems. (3) Contemporary social problems and consequences for American society.

SOCY 3090. Topics in Sociology. (1 to 3) Prerequisite(s): SOCY 1101. Examination of specialized sociological topics. *May be repeated for credit with change of topic.*

SOCY 3091. Topics in Sociology - Writing Intensive. (1 to 3) (W) Prerequisite(s): SOCY 1101. Examination of specialized sociological topics. *May be repeated for credit with change of topic.*

SOCY 3110. American Minority Groups. (3) Prerequisite(s): SOCY 1101. 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 or permission of instructor. Dynamics and emergence of sport; reciprocal influence between sport and society; values, norms, and roles in sports.

SOCY 3143. Social Movements. (3) Prerequisite(s): SOCY 1101. Analysis of collective behavior, ideology, development, and organizations of movements seeking or resisting change.

SOCY 3153. Sociological Theory. (3) Cross-listed Course(s): SOCY 3753. Prerequisite(s): SOCY 1101 with grade of C or above, and Sociology major or minor. Origins and evolution of fundamental sociological concepts and theories. Not open to students who have credit for SOCY 3154.

SOCY 3154. Sociological Theory - Writing Intensive. (3) (W) Prerequisite(s): SOCY 1101 with grade of C or above, and Sociology major

or minor. Origins and evolution of fundamental sociological concepts and theories. Not open to students who have credit for SOCY 3153.

SOCY 3155. Sociological Research Methods. (4) Cross-listed Course(s): SOCY 3755. Prerequisite(s): SOCY 1101 with grade of C or above; and Sociology major or minor. Corequisite(s): SOCY 3155L. 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 3155L. Sociological Research Methods Laboratory. (0) Cross-listed Course(s): SOCY 3755L. Prerequisite(s): SOCY 1101 with grade of C or above; and Sociology major or minor. Corequisite(s): SOCY 3155. Required laboratory session for SOCY 3155. Three hours of lecture/discussion and completion of weekly laboratory units.

SOCY 3161. Socialization and Society. (3) Prerequisite(s): SOCY 1101. Analysis and process of socialization, social interaction, and sociocultural dimension of personality.

SOCY 3173. Criminology. (3) Prerequisite(s): SOCY 1101. Nature and historical development of crime and political-economic organization of crime, criminal law, and theories of crime causation.

SOCY 3175. Crowds, Riots, and Disasters. (3) Prerequisite(s): SOCY 1101. Collective behavior in everyday life; crowds, rumors, fads, fashion; collective behavior that disrupts social order; riots and responses to disaster; response of individuals, organizations and communities to natural disasters, e.g., floods, hurricanes, tornadoes, and earthquakes.

SOCY 3210. Black Families in the Diaspora. (3) Cross-listed Course(s): AFRS 3210 and LTAM 3110. This course is designed to acquaint students with historical and contemporary experiences of peoples of African descent in the Caribbean and Latin American countries with specific emphasis on family structure and family relationships. Includes discussion of theories, history, impact of globalization on family structure, roles of women and identity, socioeconomic status and mobility, slavery, colonialism, and capitalism. The course is designed to provide students with a better understanding of the comparative relationships and links between family structures and common life experiences among peoples of African descent in different parts of the world, with specific emphasis on the Caribbean and Latin American regions.

SOCY 3250. Political Sociology. (3) Cross-listed Course(s): POLS 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 SOCY 3251 or POLS 3251.

SOCY 3251. Political Sociology. (3) (0) Cross-listed Course(s): POLS 3251. 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.

SOCY 3261. Human Sexuality. (3) Prerequisite(s): SOCY 1101 or permission of instructor. 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 or permission of instructor. 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) (W) (SL) Prerequisite(s): SOCY 1101 or permission of instructor. 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) Cross-listed Course(s): SOCY 3153. 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) Cross-listed Course(s): SOCY 3155. Prerequisite(s): Acceptance into the departmental honors program. Corequisite(s): SOCY 3755L. 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 3755L. Honors Sociological Research Methods Laboratory. (0) Cross-listed Course(s): SOCY 3155L. Prerequisite(s): Acceptance

into the departmental honors program. Corequisite(s): SOCY 3755. Required laboratory session for SOCY 3755. 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 SOCY 1101 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. Additional Honors hours that may be taken on a pass/no credit basis to conduct preliminary research and begin writing the Honors Thesis in Sociology. SOCY 3799 must be taken the following semester to complete and defend the Honors Thesis in Sociology.

SOCY 3799. Honors Thesis in Sociology. (3) (O,W) Prerequisite(s): 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.

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. Examination of specialized sociological topics (e.g., sociology of religion, Modern Japan). *May be repeated for credit.*

SOCY 4091. Topics in Sociology - Writing Intensive. (1 to 3) (W) Prerequisite(s): SOCY 1101. 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 or permission of instructor. 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. 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 or permission of instructor. 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. 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 or permission of instructor. 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. 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. 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. 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) (W) 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 4124. Sociology of the Community. (3) Prerequisite(s): SOCY 1101. Concepts and methods of community analysis of planned and unplanned community change.

SOCY 4125. Urban Sociology. (3) Prerequisite(s): SOCY 1101 or permission of instructor. Cross-cultural analysis of urban development, social structure, ecology, demographic composition, and social problems.

SOCY 4126. Food Insecurity. (3) (SL) Prerequisite(s): SOCY 1101. 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 4131. Family Policy. (3) Prerequisite(s): SOCY 1101 or permission of instructor. Critical analysis of four aspects of family policy: the historical and cultural factors that have resulted in specific policies affecting the family; the specification of contemporary family policy at both the national and state level; the intended and actual application of existing family policy; and the implications and impact of policies as they are interpreted and implemented.

SOCY 4134. Families and Aging. (3) Cross-listed Course(s): GRNT 4134 and SOCY 4734. Prerequisite(s): SOCY 1101 or permission of instructor. 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 4135. Sociology of Education. (3) Prerequisite(s): SOCY 1101 or permission of instructor. Educational institution; the school class as a social system; the school as a social environment and a complex organization.

SOCY 4140. Social Networks. (3) Prerequisite(s): SOCY 1101. Introduces the structuralist theoretical perspective and basic methods for the analysis of social networks. Topics include: social differentiation and the integration of society; small world networks; voluntary associations; culture; race relations; gender inequality; weak ties and social capital.

SOCY 4145. Sociology of Religion. (3) Prerequisite(s): SOCY 1101. What is religion? How can we study religion scientifically? Rational choice, social network, ecological, and evolutionary approaches examined. Topics include: variation in religious belief and practice, secularization, and characteristics of churches, sects, and cults.

SOCY 4150. Older Individual and Society. (3) Cross-listed Course(s): GRNT 4150, GRNT 5150, and SOCY 5150. Study of the social and cultural context on the lives of aging individuals in American society. Includes a focus on expectations, social interactions, and psychological well-being in the context of retirement, caregiving, and health.

SOCY 4153. Contemporary Sociological Theory. (3) Prerequisite(s): SOCY 1101 with grade of C or above, 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 4154. Contemporary Sociological Theory – Writing Intensive. (3) (W) Prerequisite(s): SOCY 1101 with grade of C or above, 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 4153.

SOCY 4156. Quantitative Analysis. (4) Cross-listed Course(s): SOCY 4756. Prerequisite(s): Sociology major or minor; SOCY 1101 with grade of C or above; 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) Cross-listed Course(s): SOCY 4756L. Prerequisite(s): Sociology major or minor; SOCY 1101 with grade of C or above; 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) (W) Cross-listed Course(s): WGST 4165. Prerequisite(s): SOCY 1101 or WGST 1101 and Junior or Senior standing 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) (W) Prerequisite(s): SOCY 1101 and SOCY 2169, 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 and

SOCY 2169, 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 or permission of instructor. 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 4173. Sociology of Deviant Behavior - Writing Intensive. (3) (W) Cross-listed Course(s): SOCY 4773. Prerequisite(s): SOCY 1101 or permission of instructor. Same as SOCY 4172, but a Writing Intensive (W) course. 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) (O) Cross-listed Course(s): SOCY 4763. Prerequisite(s): SOCY 1101 and SOCY 2161, 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 and SOCY 2161, 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) (W) Cross-listed Course(s): LEGL 4265 and SOCY 4765. Prerequisite(s): SOCY 1101 or permission of instructor. 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 or permission of instructor. 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. 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) (W) Prerequisite(s): SOCY 1101 and permission of instructor. 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) (O,W) Prerequisite(s): Sociology major or minor; SOCY 1101 with grade of C or above; SOCY 3153, SOCY 3154, SOCY 4153, or SOCY 4154 with grade of C or above; SOCY 3155 and SOCY 3155L with grades 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 4734. Honors Families and Aging. (3) Cross-listed Course(s): SOCY 4134 and GRNT 4134. Prerequisite(s): SOCY 1101 and acceptance into departmental honors program. 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 4755. Honors Sociological Research Methods. (4) (W) Cross-listed Course(s): SOCY 3155. Prerequisite(s): Sociology major or minor; acceptance into departmental honors program; and SOCY 1101; STAT 1220, STAT 1221, STAT 1222, or equivalent statistics course. 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 4755L. Honors Sociological Research Methods Laboratory. (0) (W) Cross-listed Course(s): SOCY 3155L. Prerequisite(s): Sociology major or minor; acceptance into departmental honors program; SOCY 1101; and STAT 1220, STAT 1221, STAT 1222, or equivalent statistics course. Corequisite(s): SOCY 4755. Required laboratory session for SOCY 4755. Three hours of lecture/discussion and completion of weekly laboratory units.

SOCY 4756. Honors Quantitative Analysis. (4) Cross-listed Course(s): SOCY 4156. 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) Cross-listed Course(s): SOCY 4156L. 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. Required laboratory session for SOCY 4756. Three hours of lecture/discussion and completion of weekly laboratory units.

SOCY 4763. Honors Sociology of Group Processes. (3) (O) Cross-listed Course(s): SOCY 4263. Prerequisite(s): SOCY 1101, SOCY 2161, 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) (W) Cross-listed Course(s): LEGL 4265 and SOCY 4265. Prerequisite(s): SOCY 1101 or permission of instructor. Systematic analysis and application of theoretical and empirical research pertaining to the social psychological study of law.

SOCY 4773. Honors Sociology of Deviant Behavior – Writing Intensive. (3) (W) Cross-listed with SOCY 4173. Prerequisite(s): SOCY 1101 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.

Southern Studies (SOST)

SOST 2050. Topics in Southern Studies. (3) Prerequisite(s): SOST 2100. An introduction to the interdisciplinary approach focusing on aspects of Southern culture and society. *May be repeated for credit with change in topic.*

SOST 2100. Introduction to Southern Studies. (3) Cross-listed Course(s): AMST 2050. The American South has a rich culture and complex history that set it apart from other regions of the United States. This interdisciplinary course explores the major qualities that make the South so distinct and offers students the opportunity for critical study of Southern culture past and present from a variety of perspectives, including historical, literary, and popular culture representations of the region. Topics include: farming traditions, foodways, music, religion, sports, and issues of race, class, and gender.

SOST 3050. Topics in Southern Studies. (3) Prerequisite(s): SOST 2100. An interdisciplinary approach to understanding a particular Southern studies topic by demonstrating how traditionally distinct disciplines, such as literature and history or art and science, interrelate and contribute to this understanding. *May be repeated for credit with change in topic.*

SOST 3800. Independent Study. (3) Prerequisite(s): SOST 2100 and permission of Southern Studies Program Coordinator. Intended for students who wish to conduct individual investigations related to Southern Studies. *May be repeated for credit with change in topic.*

SOST 4050. Topics in Southern Studies. (3) Prerequisite(s): SOST 2100. An in-depth study using an interdisciplinary approach focusing on aspects of Southern culture and society. *May be repeated for credit with change in topic and permission of advisor.*

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.

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 major. 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) (W) 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) (W) 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 or 5) (0) Prerequisite(s): Upper-Division Social Work major and SOWK 3181 with grade of C or above. Students complete an approved supervised field experience for 16 hours per week. Students concurrently participate in a field seminar to reinforce and enhance their field experience.

SOWK 3484. Social Work Practicum II. (3 or 6) (0) Prerequisite(s): Upper-Division Social Work major and SOWK 3482 with grade of C or above. Students complete an approved supervised field experience for 16 hours per week. Students concurrently participate in a field seminar to reinforce and enhance their field experiences.

SOWK 3895. Directed Individual Study. (1 to 4) Prerequisite(s): Permission of department. Supervised investigation of a special problem or area of practice. *May be repeated for credit.*

SOWK 3900. Social Work Research I. (3) Prerequisite(s): Upper-Division Social Work major. Introduction to research methods and skills used in social work.

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 4100. Ethnicity and Aging. (3) Prerequisite(s): Permission of instructor. Examines the changing characteristics, goals, and needs of older African Americans, Asian Americans, Native Americans, and Hispanics. Provides a diversity of perspectives from which to view the relationship of ethnicity to aging including the impact of the family, work, education, economy, illness, behavior, and healthcare.

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 4107. Social Work Practice with African Americans in Urban Environments. (3) Enhances knowledge, values, and skills with regard to social work practice with African American clients who live in urban communities. Provides an overarching framework for understanding and practicing urban social work, including definitions and theories that have critical implications for working with people in such communities.

Focuses on the theory, practice, and policy aspects of urban social work, and examine specific subsets of the urban African American population, including children, adults, families, and older adults. Topics include: the challenges of urban social work in relation to public health, health, and mental health; substance abuse; criminal justice; and violence prevention.

SOWK 4108. Social Work Psychosocial Treatment. (3) The frameworks for treatment, therapeutic modalities, and specialized clinical issues, themes, and dilemmas encountered in social work practice.

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 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 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.

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 2009. Hispanic Literature in English Translation. (3) (W) 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) (O) 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) (O) 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) (W) 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) (W) 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 3029. Cultural Dimension of Doing Business with Spanish-Speaking Countries. (3) Prerequisite(s): WRDS 1103 or WRDS 1104 with a grade of C or above. Development of cultural awareness for conducting business with Spanish-speaking countries and U.S. Hispanic communities. 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 3030. Business and Culture in the Hispanic Caribbean Region. (3) (W) 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) (W) 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. 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) (0) 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) (0) 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 4122. Studies in Advanced Business Spanish. (3) Cross-listed Course(s): LTAM 4322. Prerequisite(s): SPAN 3201, SPAN 3202, SPAN 3203; and SPAN 3220; or permission of department. Advanced studies in special topics in Business Spanish (e.g., Tourism in Spain and Latin America, Free Trade in the Americas [NAFTA/TLCAN, Mercosur, The Andean Pact, CAFTA-DR], Socioeconomic Issues in the Greater Caribbean, Business and Technology in Latin America and Spain). *May be repeated for credit with change of topic.*

SPAN 4201. Nineteenth Century Spanish Literature. (3) Prerequisite(s): SPAN 3208 or permission of department. Pre- or Corequisite(s): SPAN 4208 or SPAN 4209. Survey of peninsular literature from Costumbrismo through the Generation of 1898.

SPAN 4202. Twentieth Century Spanish Literature. (3) Prerequisite(s): SPAN 3208 or permission of department. Pre- or Corequisite(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): SPAN 3208 or permission of department. Pre- or Corequisite(s): SPAN 4208 or SPAN 4209. *Lazarillo* through *El Criticón*.

SPAN 4206. Theater of the Golden Age. (3) Prerequisite(s): SPAN 3208 or permission of department. Pre- or Corequisite(s): SPAN 4208 or SPAN 4209. 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): 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): 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): SPAN 3208 or permission of department. Pre- or Corequisite(s): SPAN 4208 or SPAN 4209. 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): SPAN 3208 or permission of department. Pre- or Corequisite(s): SPAN 4208 or SPAN 4209. 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): SPAN 3208 or permission of department. Pre- or Corequisite(s): SPAN 4208 or SPAN 4209. 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): SPAN 3208 or permission of department. Pre- or Corequisite(s): SPAN 4208 or SPAN 4209. 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): SPAN 3208 or permission of department. Pre- or Corequisite(s): SPAN 4208 or SPAN 4209. 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): SPAN 3208 or permission of department. Pre- or Corequisite(s): SPAN 4208 or SPAN 4209. 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): SPAN 3208 or permission of department. Pre- or Corequisite(s): SPAN 4208 or SPAN 4209. Contextual issues surrounding Hispanic literature.

SPAN 4217. Topics in Hispanic Culture and Civilization. (3) Cross-listed Course(s): LTAM 4317. Prerequisite(s): SPAN 3208 or permission of department. Pre- or Corequisite(s): SPAN 4208 or SPAN 4209. 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 2100, 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) (W) 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 3210. Enhancing the Social-Emotional Development of Young Children in Inclusive Settings. (3) Prerequisite(s): CHFD major or minor with a GPA of at least 2.5 overall and 2.75 in the major, CHFD 2111, CHFD 2113, and CHFD 2412. The social-emotional development of young children (infants, toddlers, and preschoolers) in inclusive early childhood settings. Typical and atypical social-emotional development of young children, the effects of potential risk factors on social-emotional development, and research-based practices to support social and emotional growth are explored. 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. 10 hours of observation.

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 4000. Topics in Special Education. (1 to 6) Prerequisite(s): Admission to Teacher Education and admission to Special Education Program. May include classroom and/or clinical experiences in the content area. *May be repeated for credit with change of topic and permission of department.*

SPED 4111. Issues in Early Intervention for Young Children with Disabilities. (3) Prerequisite(s): Completion of CHFD 2000-level courses with the exception of students who articulate with an AA or AAS degree and are required to take CHFD 2111; and CHFD major or minor with GPA of at least 2.5 overall and 2.75 in the major. Explores issues and evidence-based practices for young children with disabilities and their families in home, school, and community settings.

SPED 4112. Authentic Approaches to the Assessment of Young Children with Disabilities: Birth-Kindergarten. (3) Prerequisite(s): Admission to Teacher Education; GPA of at least 2.5 overall and 2.75 in the major; and SPED 4111. Develops competence in evaluation, design, implementation, and interpretation of culturally appropriate, interdisciplinary assessment approaches within the context of the young child's natural environments and in partnership with families that lead to appropriate intervention plans for children with disabilities. A field-based clinical assignment of approximately 20 hours is required.

SPED 4170. Special Education: Consultation and Collaboration. (3) (W) 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 4210. Developmental Interventions for Young Children with Disabilities: Birth through Kindergarten. (3) Prerequisite(s): Admission to Teacher Education, GPA of at least 2.5 overall and 2.75 in the major, SPED 4111, and SPED 4112. Developing, facilitating, and evaluating incidental learning, play, and routines-based interventions with young children with disabilities and their families. A field-based clinical assignment of approximately 20 hours is 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): SPED 3100, SPED 3175, admission to Teacher Education, and admission to Special Education Program. Principles and procedures used to develop instructional support for students who need life skills and adaptations to general curriculum. Students are required to design and implement an instructional program. A 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, SPED 3175, admission to Teacher Education, and admission to Special Education Program. Strategies for developing curricular priorities for students who need 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 12 hours classroom experience.

SPED 4275. Teaching Reading to Elementary Learners. (3) Prerequisite(s): SPED 3100, SPED 3175, 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 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 4475. Student Teaching/Seminar: Special Education K-12: General Curriculum. (0) (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. (0) (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 2100; 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) (W) 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) (W) 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.

SPED 4400. Integrated Instructional Applications in Special Education. (3) (W) 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.

SPEL 4477. Student Teaching/Seminar: Special Education General Curriculum and Elementary Education K-6 (Dual Program). (15) (0) 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.*

Statistics (STAT)

STAT 1220. Elements of Statistics I (BUSN). (3) Prerequisite(s): MATH 1100, appropriate eligibility level of math placement, or placement by the department. 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 1221. Elements of Statistics I. (3) Prerequisite(s): MATH 1100, appropriate eligibility level of math placement, or placement by the department. Same topics as STAT 1220 with special emphasis on applications to the life sciences. May not be taken for credit and for a grade if credit has been received for STAT 1220 or STAT 1222.

STAT 1222. Introduction to Statistics. (3) Prerequisite(s): MATH 1100 appropriate eligibility level of math placement, or placement by the department. Same topics as STAT 1220 with special emphasis on applications to the social and behavioral sciences. May not be taken for credit and for a grade 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) (W) Prerequisite(s): STAT 1220, STAT 1221, STAT 1222, or STAT 2122; 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) Cross-listed Course(s): MATH 3122. Sample spaces, random variables, moment generating functions, some standard distributions, multivariate distributions, laws of large numbers, limit theorems.

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, STAT 3110, 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, STAT 3110, 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, STAT 3110, 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, STAT 1220, STAT 1222, or permission of department. 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 I 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 4116. Statistical Computing. (3) Prerequisite(s): STAT 3123 or permission of department. 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 2241; and 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.

Swahili (SWAH)

SWAH 1201. Elementary Swahili I. (4) Fundamentals of the Swahili language, including speaking, listening comprehension, reading, and writing.

SWAH 1202. Elementary Swahili II. (4) Prerequisite(s): SWAH 1201 or permission of department. Fundamentals of the Farsi language, including speaking, listening comprehension, reading, and writing.

SWAH 3051. Topics in Swahili. (1 to 3) Study of Swahili language, culture, or literature. May be repeated for credit with change of topic.

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. Inclusive Classrooms for Immigrant Students. (3) Cross-listed Course(s): TESL 5204. An introduction to the general issues related to multicultural education and to the teaching of English Language Learners (ELLs) in diverse classroom and school contexts. Topics include: current demographics and immigration trends, legal issues, second language and identity development of immigrant students, the development of academic English, and modifying course content to meet the needs of ELLs. 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) (0) 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) (0) 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) (W) 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 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 3310. Dramaturgy. (3) (W) 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 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 2290. Acting on Camera I. (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 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) (W) 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 2370. Introductory Theatre Teaching Apprenticeship. (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 2400. Core-Level Production Practicum. (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 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 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 3251. Theatre Production Management. (3) Prerequisite(s): THEA 2221. A study of management techniques needed by all of those who perform a management role in the performing arts. Topics include: communication skills, team building, assertiveness, goal setting, time management, stress management and an overview of production organizations. This is accomplished with thorough discussion of texts and actual production experiences.

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 3260. Advanced Lighting Technology. (3) Prerequisite(s): THEA 1260 or permission of instructor. In-depth exploration of dimming, control, paperwork, modern instrumentation.

THEA 3271. Acting Movement Styles. (3) An exploration of the particular challenges an actor encounters with dramatic texts from various historical periods. Plays, manners, customs, and movement vocabulary of Greek Tragedies, Roman comedies, Elizabethan/Siglo de Oro, French Neoclassical, Victorian era, and the early 20th century are studied through scene work. Designed to acquaint the actor with the fundamentals of acting styles, this course explores the physical, vocal, emotional, and technical aspects of the actor's craft in various styles as we aim for a broader physical vocabulary and an inherent physical freedom for the stage. Students learn and apply a set of analytical and problem-solving skills, research and critical thinking, oral communication proficiencies, and practice and collaboration.

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 3315. Shakespeare and Practical Dramaturgy. (3) Prerequisite(s): THEA 1300. Exploration of the core theoretical and practical issues involved in staging Shakespeare in the present day: how to conceive of the relationship between text and performance, between the playing conditions of the original period and those of today, and the nuances of issues such as casting across lines of gender and race, and other intellectual concerns facing modern theatre companies. Students examine the role of the dramaturge as a resource on concrete matters pertaining to the special instance of Shakespeare in the theatre such as script editing, working with actors to understand their lines and playable choices, liaising with directors and designers, writing program, notes, and participating in discussions with audiences.

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. Concentration Level Practicum. (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 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 with permission of department.*

THEA 4001. Topics in Theatre. (1 to 6) (W) Special topic in theatre. *May be repeated for credit with change of topic.*

THEA 4201. Acting III: Realism and Naturalism. (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 realistic and naturalistic plays. Focusing on Chekhov, Williams, O'Neill and Mamet scene work, the student is instructed on research, script analysis, and performance techniques. Four contact hours.

THEA 4202. Acting III: Elizabethan and Jacobean. (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 *Elizabethan* and *Jacobean* plays. Focusing upon Shakespeare, Marlowe, and Jonson scene work, the student is instructed on research, script analysis, and performance techniques. Four contact hours.

THEA 4203. Acting III: Period Styles. (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 the plays of *Moliere* and various *Restoration comedies* plays, as well as some Ancient

Greek texts. Focusing upon Moliere, Wycherley, and Congreve scene work, the student is instructed on research, script analysis, and performance techniques. Four contact hours.

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 4235. Welding and Metal Working. (3) Prerequisite(s): THEA 1240. The equipment, materials, and techniques used in the welding and cutting processes most often employed in the manufacturing of scenery. These include: oxyfuel gas welding and cutting, shielded metal arc welding, gas metal arc welding, and tungsten gas arc welding.

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) (W) 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) (W) Prerequisite(s): THEA 1360, THEA 2370, 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 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 clinical experiences for students transitioning to the student teaching internship.

THEA 4375. Devising/Directing Methods with Youth K-12. (3) Prerequisite(s): THEA 1360 or permission of instructor. Students interested in education and/or applied theatre design inclusive approaches to text, performance, ensemble, and community building. Anchored in community and/or school settings, the course helps students analyze, design, plan, and implement traditional scripted production work, as well as collective creation/devising work. A major emphasis rests on guiding educators and artists to flexibly create and adapt theatrical material to serve young people in a culturally responsive and inclusive way in a variety of contexts.

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) (0) 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 4630. Senior Capstone in Directing, Dramaturgy, and Dramatic Writing. (3) Prerequisite(s): Senior standing and permission of instructor. 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 of 3-D. This seminar is designed to facilitate, guide, and evaluate graduating seniors' capstone projects. Course activities are both collaborative and individually based, and should reflect each student's particular area of interest.

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) (W) 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) (W) 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): JAPN 3202 and JAPN 3202L or equivalents with grades 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): JAPN 3202 and JAPN 3202L or equivalents with grades 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) (W) Cross-listed Course(s): TRAN 5424. Prerequisite(s): JAPN 3202 and JAPN 3202L or equivalents with grades 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) (W) 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) (W) 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 1001. 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. *Graded on a Pass/No Credit basis.*

UCOL 1010. College Transition for Transfers. (3) (W) 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) (O) 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 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. 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 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 1210. Transfer Seminar. (3) (W) A seminar-style learning experience focused around a particular theme that is 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 1211. Transfer Seminar. (3) (O) A seminar-style learning experience focused around a particular theme that is 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 oral communication 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 1300. Academic Success Seminar. (2) 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) 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 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 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 3400. Preceptor Training Seminar. (1) Prerequisite(s): Permission of University College. Students enrolled in the seminar learn how to support faculty in the classroom. Topics include: enriching learning engagement, supporting undergraduate student success, enhancing academic enrichment, and monitoring the classroom. Students also develop teaching-related skills and learn to provide mentorship to first-year students. *May not be repeated. Graded on a Pass/No Credit basis.*

UCOL 3401. 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 3 credit hours.*

UCOL 3450. Teaching Internship. (1 to 3) Prerequisite(s): Permission of the sponsoring unit and supervising instructor. Pre- or Corequisite(s): UCOL 3400. 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. (3) Prerequisite(s): Permission of instructor and Dean of University College. Individual research, research, or filed-based experience in a topic under the supervision of a faculty member. *May be repeated for credit with permission.*

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.*

First-Year Writing (UWRT)

UWRT 1100. Supplemental Writing for English Language Learners. (3) Prerequisite(s): University Writing Program placement test for students whose primary language is not English. Corequisite(s): WRDS 1104. Limited to students whose primary language is not English who may need additional support while concurrently enrolled in a designated section of WRDS 1104. Does not count toward the English major or toward the General Education requirement.

Women's and Gender Studies (WGST)

WGST 1101. Introduction to Women's Studies. (3) Introduction to values associated with gender and basic issues confronting women in society, from a variety of cultural and feminist perspectives.

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 2051. Topics in Women's Studies. (3) (W) 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 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): INTL 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) (W) 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) (W) 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 3051. Topics in Women's Studies. (3) (W) Special topics in Women's Studies. *May be repeated for credit with change of topic.*

WGST 3102. Changing Realities of Women's Lives. (3) (W) 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 3111. Women in Judaism. (3) Cross-listed Course(s): RELS 3111. A survey of the roles and activities of Jewish women throughout Jewish history, as it is portrayed in a diverse sampling of Jewish religious literature and practice.

WGST 3112. Women's Diaries and Women's Experience. (3) (W) 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) Cross-listed Course(s): HIST 3131. 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 3157. Women and Activism. (3) Examines current and historical women's activist movements across the globe. Special focus on methods and strategies for creating change and the social and cultural factors that shape specific activist movements.

WGST 3158. Third Wave Feminism. (3) A review of the theoretical perspectives reflective of third-wave feminism, with a specific focus on work published in the past twenty years. Such third-wave feminism concepts as cyberfeminism, individualist feminism, new feminist theory, girl power, and transgender politics are addressed. New work by prominent third-wave feminists such as Naomi Wolf, Jessical Valenti, Elizabeth Wurtzel, Jennifer Baumgardner, bell hooks, and Judith Butler is discussed, while also emphasizing the importance of activism for contemporary feminists.

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 3170. Female Adolescence in Film. (3) Study of mainstream and independent films that focus on adolescent girls (or the lack thereof) and the sometimes symbiotic relationship between these films and society.

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 3212. Women and Peacebuilding. (3) Exploration of the contributions women can make and have made to peacebuilding and conflict-resolution.

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 3216. Religion and Masculinity. (3) Cross-listed Course(s): RELS 3220. 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.

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) (W) Prerequisite(s): WGST 1101 or permission of instructor. Cross-cultural and interdisciplinary survey of the main traditions of feminist theory in the context of their historical and philosophical roots.

WGST 3221. Feminist Thought. (3) Prerequisite(s): WGST 1101 or permission of instructor. 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 3820. 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 4051. Topics in Women's Studies. (3) (W) Special topics in Women's Studies. *May be repeated for credit with change of topic.*

WGST 4120. Women's Studies International. (3) Cross-listed Course(s): INTL 3120. Explores policies affecting women's lives across international borders and will look at a range of topics from divorce, marriage, violence against women and abortion to work and poverty.

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 4152. Ecological Feminism. (3) Examines the cultural conditions that make possible the marginalization of both women and nature, the connections between feminism and environmentalism, and the relation between the norms and practices that inform developmental and environmental policies.

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. Race, Sexuality, and the Body. (3) Examines how biological, historical, and cultural interpretations of race and gender influenced and characterized definitions of sexuality and body image among persons of color.

WGST 4165. Sociology of Women. (3) Cross-listed Course(s): SOCY 4165. Prerequisite(s): SOCY 1101 or WGST 1101; Junior or Senior standing 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.

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 welfare 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 4191. Women's Health Issues. (3) Cross-listed Course(s): NURS 4191. Prerequisite(s): Permission of instructor. Exploration of contemporary issues in women's health from the feminist and women's health movement perspectives.

WGST 4228. French Women Writers in Translation. (3) Prerequisite(s): Junior or Senior standing; and WRDS 1103 or WRDS 1104 with a grade of C or above. Advanced studies of literature and criticism by French women writers in English translation, with a focus on women's issues from a cross-cultural perspective. Course conducted in English. *May be repeated for credit with change of topic.*

WGST 4260. Women: Middle Age and Beyond. (3) Cross-listed Course(s): GRNT 4260 and HLTH 4260. 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): Appropriate score on ACT or SAT Critical Reading and high school performance. 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.

WRDS 1104. Writing and Inquiry in Academic Contexts I and II with Studio. (4) Prerequisite(s): Appropriate Score on ACT or SAT Critical Reading and high school performance. 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.

WRDS 2101. Advanced Writing: Research and Critical Analysis. (3) (W) 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) (W) 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 pexercises, 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) (W) 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 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) (W) 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) (O) 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) (W) 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) (W) 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 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.

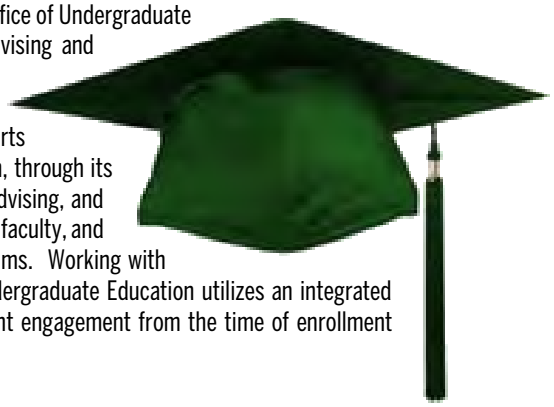
Office of Undergraduate Education



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, initiatives for underrepresented students, 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 Experience (Prospect for Success, Common Reading Experience, and Learning Communities)
- Office of Academic Diversity and Inclusion
- Office of Undergraduate Research
- University Advising Center
- University Career Center
- University Center for Academic Excellence
- University College
- University Transfer Center

Advising Systems

advising.charlotte.edu/students/academic-support/advising-systems

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 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 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.

Athletic Academic Center

charlotte49ers.com/sports/academic_center

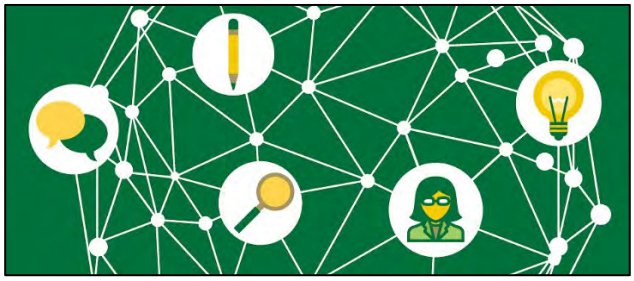
The Charlotte 49ers Athletic Academic Center (AAC) is committed to empowering all Charlotte varsity student-athletes to take ownership of their personal academic experience. The center provides a framework of support services designed to meet the unique needs of student-athletes, assisting them to achieve 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 offers a comprehensive approach to curriculum mapping that identifies areas of strength and opportunities for growth in teaching and evaluating writing and speaking. On a smaller scale, CxC facilitates group discussions about communication in the curriculum. Also, CxC works with faculty in small groups and individually to consult on specific course and assignment design.

Professional Development

CxC facilitates various professional development opportunities for faculty throughout the year, including:

- CxC Webinar Series
- LBST 2301 Teaching Academy
- W/O Teaching Academy
- 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 who develop a communication-enhanced curriculum. 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 writing and speaking assignments.

Disability Services

ds.charlotte.edu

UNC Charlotte is committed to access to education for all students. The Office of Disability Services is the University office designated to determine reasonable accommodations for students with disabilities. Their mission is to provide access to education and campus life at the University and to support a culturally rich, inclusive, and accessible campus environment. They work with undergraduate, graduate, and continuing education students to help ensure that programs, services, and the campus are accessible in accordance with Section 504 of the Rehabilitation Act of 1973, the Americans with Disability Act, and the ADA Amendments Act. Students who plan to request accommodations must submit documentation of their disability to Disability Services for review. Appropriate forms can be found on the Documentation webpage at ds.charlotte.edu/students/how-register-services/documentation. Once documentation is reviewed and a determination is made, students are notified via their University email regarding eligibility status and next steps. Once eligible for services, students must schedule a Registration appointment with a DS counselor to establish accommodations through an interactive process. Students with documented disabilities may be eligible for a variety of reasonable accommodations and services.

The Disability Services staff recognize there are often differences in services and accommodations between high school and college, and services can even vary from university to university. Students are encouraged to contact Disability Services with questions about eligibility, services, and accommodations at UNC Charlotte.

First-Year Experience

Recognizing the importance of the first year in shaping a student's college experience, the First-Year Experience initiative works 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. Students engage with the Prospect for Success program during their first semester at UNC Charlotte.



Through carefully designed courses and out-of-class experiences, every first-year student at UNC Charlotte develops their own commitment to success, inquiry skills, and cultural awareness as a participant in Prospect for Success. While this may look different for each student, depending on the coursework and requirements for their particular college, the commitment to seeing students thrive at UNC Charlotte remains the same.

Each college at UNC Charlotte has a carefully designed 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, and cultural awareness. Prospect for Success also provides structured activities that engage students with their advisors, campus resources, and co-curricular opportunities.

Common Reading Experience



The Common Reading Experience at UNC Charlotte is designed to provide a shared academic experience, which serves to assist first-year students in their transition to UNC Charlotte. This program offers unique opportunities for self-reflection, critical thinking, student interaction, and understanding of diverse perspectives. For details, visit the Common Reading Experience webpage at ucol.charlotte.edu/cre.

Learning Communities

UNC Charlotte's Learning Communities Program is transforming the way students live, learn, and succeed in their academic endeavors. Learning communities help new students transition through academic and social challenges by providing small, supportive learning environments. Students who participate in a learning community interact closely with UNC 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. Students in the year-long learning communities make friends and develop close relationships.

While some learning communities are residentially based, most do not require living on campus. Additionally, while most learning communities are designed for first-year students, some are specifically designed for new transfer students.

Contact and application information for UNC Charlotte's Learning Communities can be found online at lc.charlotte.edu.

Office of Academic Diversity and Inclusion

oadi.charlotte.edu

While open to all students, The Office of Academic Diversity and Inclusion (OADI) emphasizes the student success and academic support of students from the following populations: African American, Asian American, Hispanic/Latinx, Pacific Islander, Native American, Multi-racial, LGBTQ, first-generation, students from rural communities, and students who have a reported disability.

Services rendered include, but are not limited to, academic advising, transition programs, academic support workshops, peer counseling and tutoring, and personal counseling. Moreover, the office serves as a clearinghouse for information and referrals to other University resources and academic support services. While the focus remains on student success, OADI supports/assists in organizing the creation of curricular and co-curricular academic activities within the academic colleges and units of academic affairs. Additionally, faculty are supported in expanding their understanding of DEI to strengthen the curriculum, classroom environment, and UNC Charlotte community.

Transition programs led by OADI include the University Opportunities Transition Program (UTOP), the 49er Intensive Transition Program (FIT) and the Spring to Academic Readiness (STAR) programs. These are cohort-based programs that serve as academic bridge programs for incoming students that connect them with campus resources, offer course credit, and provide a solid foundation as they begin their experience as Niner.

Retention and Navigation programs that OADI offers are Building Better Brothers (B3) and Instilling Girls with Nobility and Integrity: Thriving Toward Empowerment (IGNITE). These are identity-based programs that support student retention and graduation efforts; including but not limited to; research, connection to faculty, educational and social support. Collaborative support programs offered to students include the North Carolina Louis Stokes Alliance for Minority Participation (NC-LSAMP) program. This program, funded by the National Science Foundation, is a partnership with the College of Liberal Arts and Sciences to support underrepresented students in STEM majors to gain experience with research and be prepared to move to graduate level education. The Student Advising for Freshman Excellence program (SAFE), co-sponsored by the Office of the Dean of Students is a first-year peer-mentoring program. OADI works with a variety of offices to support first generation students through the 49er First program.

OADI offers faculty education and curricular support for diversity, equity, and inclusion within Academic Affairs. Working with faculty, departments, identity-based caucuses, and the Office of Diversity and Inclusion; OADI supports the mission of student success in Undergraduate Education by supporting and implementing initiatives that help to create and sustain an equitable and inclusive environment. This includes education through the Diversity Peer Educator program, the convening of the Academic Affairs Diversity Consortium, and analyzing assessment data related to student achievement, and serving on research/grant teams to fund new initiatives.

Office of Undergraduate Research

our.charlotte.edu

The Office of Undergraduate Research (OUR) assists students in identifying mentors and exciting research opportunities in their field, and offers support to the student through undergraduate research grants and

opportunities to communicate their research to others through multiple research symposium, a research journal, funding to national conferences to present their research, and research exploration events.

A key aspect of fulfilling this vision rests in removing financial, social, and/or cultural barriers, so research can become a central feature of the undergraduate experience for all students at UNC Charlotte.

Our mission focuses on supporting undergraduates, graduate students, post-doctoral scholars, and faculty involved in undergraduate research by administering programs that facilitate, fund, and recognize their undergraduate research efforts.

University Advising Center

ucol.charlotte.edu/advising/academic-advising

The University Advising Center provides academic advising services to students who are undeclared, exploring, or transitioning between majors.

Academic Advisors in the Advising Center collaborate with faculty Academic Advisors from each of the Colleges 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 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.

University Career Center

career.charlotte.edu

The University Career Center (UCC) 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 UCC hosts career fairs and events throughout the year and provides a host of resources online at career.charlotte.edu. UCC staff collaborate with academic colleges to coordinate experiential learning, and career advisors teach career-related sections of freshman and transfer seminars. The UCC 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 University Career Center (UCC) 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 UCC contains information on preparing for professional school exams, select fellowships and grants, and in-depth career information. Hire-A-Niner, the UCC'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 UCC 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 UCC can help students plan the application and career development processes, which includes career exploration through job shadowing, self-assessment, career research, and internships.



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 hireaninner.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 $10 per hour for 10-15 hours per week during the Fall and Spring semesters.

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 Development Instruction

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: Test Prep, 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 including books and study guides.

Peer-Assisted Learning

The Peer-Assisted Learning (PAL) program assists students in historically difficult courses 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 are embedded in classes and collaborate with faculty members to offer additional support to students in an active learning environment. Data show that students regularly participating in Peer-Assisted Learning sessions average significantly higher final course grades compared to non-participants. The program has been nationally certified through the College Reading and Learning Association (CRLA) at Level I.

Personal Academic Consultations

Personal Academic Consultations (PACs) 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 PACs. Students may sign up for one-time or ongoing appointments to address their academic success goals.

49er Connect

49er Connect links UNC Charlotte students to trained Success Guides who provide academic support and accountability. Success Guides are there to help their peers strengthen academic skills like time management and note-taking. They work 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.

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. SOS empowers 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 II, Advanced Mentor.

Tutorial Services

Serving all UNC Charlotte undergraduate students, the Tutorial Services Program provides free tutoring by appointment and drop-in sessions. Recurring and online appointments are available. 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.

49er Rebound

49er Rebound is a 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. The UCAE collaborates with all eight colleges, secondary advising centers, and staff members across campus to offer a range of options for participating students. These options include both a credit and a non-credit bearing academic success course, a discussion group experience, or peer mentoring for more individualized support. 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.

University College

ucol.charlotte.edu

University College serves all undergraduate students at UNC Charlotte through the General Education Program, which it coordinates on behalf of and with the support of all of the academic colleges that make up the campus community. This curriculum reflects this university's commitment to the principles of a liberal arts education, a broad training that develops analytic, problem solving, and communications skills and also awareness of bodies of knowledge and new perspectives that prepare students for success in their careers and communities in the 21st century.

In addition, 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 Advising Center. The professional advisors in the Advising Center are specially trained to work with students to assess their interest and likelihood of success in possible majors. 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 supports and advocates for transfer students through a variety of programs and services, including advising, peer mentoring, outreach, and collaboration with stakeholders. The center provides primary advising to transfer students in University College and secondary advising to transfer students in other colleges, as needed. Advisors within the University Transfer Center utilize a developmental advising model that assists transfer students in academic exploration, teaches them registration and degree audit skills, and helps them negotiate academic policies and resources.

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).*

Adult Students and Evening Services

oases.charlotte.edu

Office of Adult Students and Evening Services (OASES)

OASES serves as a principal resource for nontraditional and adult students and is committed to supporting and enhancing educational experiences. Services include academic and career advising, an adult student transition course, career assessments, educational and social programming, and extended morning and evening office hours. Programs include an adult student orientation, the Alpha Sigma Lambda Honor Society, scholarships, and the 49er Finish Program. Visit oases.charlotte.edu for detailed information and office hours.

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 Evening 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.



Athletics and Recreation

charlotte49ers.com

Charlotte 49ers/Athletics

The Charlotte 49ers Department of Athletics provides competition in 18 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 Conference USA. Conference USA tournament champions in baseball, men's and women's basketball, golf, men's and women's soccer, softball, men's and women's tennis, and volleyball receive automatic bids to the NCAA post-season tournaments. Bowl bids are available to Conference USA schools in football.

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 Transamerica 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 well-being initiative, along with the Center for Wellness Promotion, the Student Health Center, and 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 develops and conducts 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. Approximately forty clubs, ranging from equestrian to lacrosse to tennis, are active each semester. Fitness opportunities include Group Fitness classes like Zumba, Cycling, Yoga, and Barre. Strength Training and Conditioning including weights, cardio and functional training equipment is available for drop-in fitness and Personal Training is also available. The Aquatics program offers competitive log rolling, open swim, instructional swim, and water safety courses. Three major Special Events are offered each year: RecFest, the 49er Gold Rush 5K, and the On the Green Golf Tournament. These special events are open to the extended campus community and involve food, games, prizes, entertainment, and competition. In addition to structured sports programs, the department promotes the concept of informal use of recreational facilities through the Open Recreation Program (i.e., pick-up basketball and volleyball). University Recreation hires hundreds of students each year for jobs such as sport officials, group fitness instructors, personal trainers, lifeguards, patron services assistants, fitness specialists, student supervisors office assistants, marketing assistants, and more. For additional information, visit urec.charlotte.edu.

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 leisure 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 of cardio and strength training equipment 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 special events.

Hayes Recreational Field Complex

Located off Phillips Road above the Wells Fargo Field House, the Hayes Rec Field Complex is home to three Rec Services fields - two are natural grass (Fields 11 and 12) and one (Field 13) is synthetic turf. All fields are fenced-in and lighted for night-time use. These fields are the home of many Sport Clubs, but are also available for Open Recreation.

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) is diverse in what it can bring to your outdoor workout experience. 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:

- Multi-function 49er ID Card system
- Dining venues and meal plans
- On-campus bookstore
- Printers and copiers
- Parking and transportation services
- Mail and package services
- ATM stations and vending machines
- Laundry and Dry Cleaning locker pick-up and drop-off service

49er ID Card

Every student's 49er ID Card or 49er Mobile ID displays a photo, name, and a unique student ID number (different from a Social Security number for privacy reasons). The 49er ID Card or 49er Mobile ID proves that the student is a member of the campus community and entitled to certain services.

A 49er ID card 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

The 49er ID card also serves as a:

- Meal plan card
- Library card
- Secondary credential for virtual parking privileges
- CATS All-Access Transit Pass

And holds funds for:

- 49er Account
- Optional Dining Account

To get a 49er ID card, 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
- Proof of University affiliation such as acceptance letter, class schedule or tuition bill
- One valid proof of identification such as a driver's license, state issued ID or passport
- Upload your ID photo in advance at aux.charlotte.edu/49er-card/online-photo-submission

Entering freshmen and transfer students will provision their 49er Mobile ID during SOAR. Physical 49er Cards may be obtained at the 49er Card Office in the Popp Martin Student Union.

The 49er ID card 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 Card. 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 and Smart Markets
- 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, can't go into negative balance, and won't incur fees like overdraft charges.

There are four ways to deposit funds onto the 49er account

1) Online: uncc-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.
4) VTS machines: Located on the first and second floors of the Atkins Library and the first floor of the Popp Martin Student Union. VTS machines accept cash deposits only to the 49er Account and do not dispense change.

Bookstore

Located in the Student Union, Barnes & Noble Charlotte offers: new and used textbooks and textbook rental (with online ordering and pre-pack services); general interest and children's books; school supplies; computer software; greeting cards and 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.

Copy Center

UNC Charlotte has a pay-for-print system in most computer labs and in the Atkins Library. A 49er Account is required to pay for print jobs in these areas. The 49er Account may also be used at the REPROS Copy Center for other copying services such as binding, wide-format printing and presentation services. REPROS offers full-service and self-service reprographics, and is located on the lower level of the Prospector building. For details, visit aux.charlotte.edu/copy.

Dining on Campus

UNC Charlotte offers a wide variety of dining options in different locations across campus. From buffet-style dining at Crown Commons and SoVi to retail dining at over 20 locations, students find something that suits 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. Packages are shipped and received through the United States Postal Service. Mail & Package Services handles and distributes mail for residential students and offers campus mailbox rentals. For additional details, visit aux.charlotte.edu/mail.



Union Station

Union Station in Popp Martin Student Union provides shipping, U.S. Passport, and custom balloon services.

Services offered include:

- Package shipping service (USPS, DHL, FedEx)
- Stamps and shipping supplies
- Money orders
- Campus mailbox rental
- Kodak® photo kiosk
- Self-service copier
- Fax services
- Balloons

Passports

Union Station has also been certified as a Passport Acceptance Facility to process U.S. Passports and submit them for Department of State approval. Passport application requires proper documentation. For details, visit aux.charlotte.edu/mail-package/union-station. Passport photo service is also available.

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 reduced 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. Data for surface lots is coming soon.

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.



PassioGO!

PassioGO! is a free smartphone 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 Monday through Friday from 6:30 a.m. to midnight 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.

Gotcha Bike and e-Scooter Rentals



Pedal-assist bikes and e-scooters are available for short-term rental at hub locations all over campus. Download the Gotcha Mobility App, available on iOS and Android, to find and rent available bikes and e-scooters. Additional information about the program is available online at pats.charlotte.edu/gotcha.

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.

Car Sharing

Zipcar® has cars parked on campus for qualified drivers 18+ to use. Gas, insurance, and 180 miles/day are included in every reservation. Details on the program and a link to join can be found at pats.charlotte.edu/zipcar.

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. An RFID chip in the 49er ID Card has an embedded app for CATS systems.

To ride LYNX light rail, students simply show a 49er ID Card, 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/rail/Pages/default.aspx.

For CATS buses, students show their 49er ID Card 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 enhance student learning and interpersonal growth by serving as a resource for students and families navigating the Niner Nation journey. Each program unit within the Dean of Students Office has a specific mission, but one common goal: to provide education, outreach, and support that maximizes opportunities to fully participate in and authentically contribute to the University experience. Program areas housed within the Dean of Students Office include: Identity, Equity, and Engagement; Niner Finances; Student Assistance and Support Services; Student Accountability and Conflict Resolution; Student Transition and Support; and Veteran Services. The Dean of Students Office, along with its programs and services, is the central point of contact when individuals want to get involved, need to resolve a conflict, have questions about policies and procedures, or are trying to identify campus resources and information that will put them on the path to success. Through dedicated, passionate, and knowledgeable staff, the Dean of Students Office provides guidance and advocacy for students, empowers independent thinking and problem solving skills, exposes students to diverse perspectives, encourages personal accountability, and cultivates civility and global citizenship.

The main Dean of Students Office suite is located in King 217. For more information, visit dso.charlotte.edu.

Identity, Equity, and Engagement

The Office of Identity, Equity, and Engagement's mission is to provide students an affirming and equitable environment committed to fostering a campus community that celebrates and supports expansion of identities through holistic development, education, and intentional engagement. With student support and advocacy as a primary focal area, the office offers programs, resources, and experiences that enhance equity and identity consciousness. Through dialogues, workshops, transition initiatives, and student organizational support, the office provides students the opportunity to explore their own identities, the exploration of others' identities, as well as systems of privilege and oppression. The office promotes interaction with the University and Charlotte community through identity development of students, peer mentoring, leadership opportunities, and by offering ongoing education, programming, and training which explore the many facets of diversity, equity, and social justice.

The Office of Identity, Equity, and Engagement supports campus-wide programming, including the annual International Festival; Martin Luther King, Jr. Celebration; cultural heritage months (Native American Heritage Month, Black History Month, Hispanic/Latinx Heritage Month, Asian/Pacific Islander Heritage Month, Women's History Month, etc.); conversation series; LGBTQ+ outreach and education; as well as other special events. The staff provides support to 100+ identity-based student organizations with programmatic efforts that support the office and oversees the Peace Haven, a mindfulness space for students in the Cone University Center.



LGBTQ+ Programs and Services

The Office of Identity, Equity, and Engagement (IEE) provides multiple programs and services that serve and support LGBTQ+ students and advocates. First-year LGBTQ+ students can engage in Queer Year 1, a cohort-based program aimed to connect first year LGBTQ+ students together and to resources on campus. Students can engage and connect with fellow students through monthly LGBTQIA+ Community Chats and For Us: A QTBIPOC Student Space. The IEE also oversees the Lavender Lounge in
, a space for LGBTQ+ students and advocates to connect and build community. The IEE works collaboratively with various offices/departments on campus to provide programs and resources such as LGBTQ+ History Month, the Preferred First Name process, and Gender Affirming Housing. For more information, visit identity.charlotte.edu.

Students who are interested in learning how to be an advocate for their LGBTQ+ peers can attend Friendly Peer Training throughout their time here at UNC Charlotte. Students can also attend a variety of educational events regarding LGBTQ+ identities throughout the academic year outside of Friendly Peer Training.

Student Advising for Freshman Excellence (SAFE)

SAFE is a peer mentoring program designed to assist students' academic and social transition through their first year of college. The SAFE program connects new students with upper-class mentors who serve as role models during the first year of college while providing academic and student development programming to address needs in a holistic manner. SAFE is open to all first-year students, but has a unique emphasis on students from historically marginalized backgrounds (students of color, first generation students, low socioeconomic status, etc.). Visit online at safe.charlotte.edu.



Additionally, the office assists in the holistic development of UNC Charlotte students by providing avenues to explore socioeconomic status, race, ethnicity, as well as sexual, gender, religious, and spiritual identity and expression. The office serves as an equity and justice resource for both University and community support sources. Staff in the office also provide feedback and guidance to University administrators regarding best practices for inclusive institutional practices, policies, and procedures. Visit identity.charlotte.edu or the office in the Popp Martin Student Union for more information.

New Student and Family Services

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, through camps, resources, peer connections, and engagement opportunities. A full schedule of Gold Rush activities is available online at nsfs.charlotte.edu.

New Student Orientation (SOAR)

Student Orientation & Academic Resources (SOAR) occurs during the summer and immediately prior to the Fall and Spring semesters. This program provides the opportunity for new first-year and transfer students to begin their transition to UNC Charlotte. Orientation workshops, testing, academic advising, and first semester course registration occur during SOAR. Visit online at nsfs.charlotte.edu.



Niner Nation Family

Niner Nation Family is intended to engage UNC Charlotte parents and family members through quality services and programs. These services and programs facilitate positive relationship-building, enhance communication between families and the University, and create an inclusive and comfortable environment. Various levels of involvement are available to all parents and family members of current students. Family members can join by visiting nsfs.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.

Student Accountability and Conflict Resolution

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.

Veteran Services

Veteran Services coordinates support services for military veteran and dependent students such as assistance with University administrative support, collaboration with Veterans Affairs counseling and healthcare services, veteran-friendly employment, mentoring, and veteran service organizations. In addition, the Office of Veteran Services is responsible for administering and certifying veterans benefits through the Veterans Administration Office. Finally, the office plans events on campus in honor of our nation's servicemen and servicewomen, such as observances for Veterans Day, Memorial Day, POW/MIA Recognition Day, and 9/11 remembrance. Visit online at veterans.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 is coordinated by the Office of Waste Reduction and Recycling and is available in academic and administrative buildings, in many outdoor areas, and in all residence halls on campus. In the academic and administrative buildings, recycling can be found in common areas, like hallways and lobbies. In the residence halls, there are centralized recycling bins in trash rooms or lobbies. Once recyclables are collected in rooms, students should bring them to the centralized bins for proper collection. Housing and Residence Life housekeepers pick up the recycling and transport it to the loading docks of the residence halls for pickup.

The following items can be recycled on campus:

- Aluminum cans
- Steel and tin cans
- Glass bottles and jars
- Plastic bottles, tubs and containers (except #6)
- Paper / junk mail / magazines
- Cardboard
- Pizza boxes

The Office of Waste Reduction and Recycling also supports a "Weird Recycling Center" in the Popp Martin Student Union and Prospector. Here you can bring plastic bags, cords/cables, batteries, printer cartridges, eyeglasses, and CDs for recycling.



There is also a recycling area for mail and packaging products located at Mail Services in Prospector. Cardboard boxes, plastic packaging, and packing peanuts can be recycled in this location.

In addition to collecting recycling on campus, the Office of Waste Reduction and Recycling provides other waste reduction efforts, like composting and a reuse program called "Free Store" that happens every August and January. Further, the office supports zero waste football at Jerry Richardson Stadium, a biannual Campus Clean-up, Adopt-A-Spot, and other exciting events on campus.

Composting is also available on the first floor of the Popp Martin Student Union. This allows students and staff to compost their leftovers and food scraps after dining at one of the restaurants in the Union.

For more information or to get involved, visit recycling.charlotte.edu and follow @unccrecycling on Instagram and Facebook.

Health, Wellness, and Counseling Services

Student Health Center

The Student Health Center 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. The Student Health Center is staffed by a team of physicians, physician assistants, nurse practitioners, psychiatrists, and a registered dietician. 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.

The Student Health Center functions by appointment; this 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 the Student Health Center 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 cash, check, credit card, or transferred to the student's University account. The Student Health Center files insurance for those students who have the Student Blue Health Insurance plan. For more information, visit the Student Health Center 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 the Student Health Center 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 operates from a public health model and utilizes prevention and health promotion strategies to empower students to make informed decisions about their personal health and well-being. The team of multidisciplinary professionals addresses issues such as alcohol use, drug use, recovery from substance use disorders, tobacco cessation, sexual health, sexual and relationship violence, and a variety of other wellness topics that affect college students.



This is done through health education workshops and events, campus-wide wellness promotion initiatives, and individual consultations with the team members. The Center also coordinates the Charlotte Recovery Program, which provides clinical services and other support to students in recovery from substance use disorders, as well as services for students who want to change their relationship with substances.

The Center for Wellness Promotion offers a variety of opportunities for students to get involved with wellness promotion initiatives, including undergraduate student employment, graduate assistantships, and internships within the department.

More information about the Center may be found by visiting wellness.charlotte.edu.

Counseling and Psychological Services (CAPS)

The Center for 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, the Center 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. The Center understands diversity, which includes but is not limited to: race, ethnicity, gender identify and

expression, sexual identity, sex, age, socio-economic status, religion, ability, nationality, and language. CAPS is dedicated to social justice through increased awareness of the effects of oppression, prejudice, and discrimination.

Counseling provides an opportunity for individuals to improve personal skills, build resiliency in the face of adversity, develop increased confidence, overcome psychological issues 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 psychological problems such as depression, anxiety, eating disorders, use of alcohol and other drugs, or difficulties in adjustment. Licensed psychologists and social workers as well as advanced graduate students under the supervision of licensed staff are available to consult with students about these concerns.

All currently enrolled students are eligible for an initial assessment. This first session is intended to assess the student's need, 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 consultation are important services provided by CAPS. Staff members are available to consult with faculty, staff, parents, loved ones, and students who have concerns about a student. Outreach activities, usually focusing on some aspect of personal, interpersonal, or group development, include programs conducted outside CAPS to meet the needs of a class, group, or organization.

Initial counseling appointments may be arranged by calling the Center at 704-687-0311 or visiting the Christine F. Price Center for Counseling and Psychological Services in the Student Health complex. More information about CAPS and its services can be obtained by visiting caps.charlotte.edu.

Housing and Residence Life

housing.charlotte.edu

University towers, suites, and apartments offer students a variety of living arrangements.

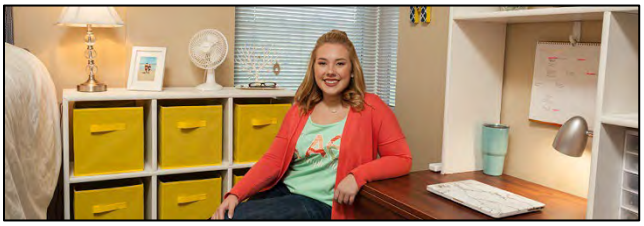
Residence Halls

Three tower halls house a combination of either two students in each room or single rooms. Each room is equipped with beds, dressers, study desks, chairs, and closets or wardrobes. Holshouser Hall also has two-bedroom, four-person suites on each floor. Each of these suites has a common area and a bathroom in each unit. Each floor has a central lounge, plus study and seminar rooms. Two elevators service each air-conditioned building. Each building also contains an office for the full-time professional staff (Residence Education Coordinator), a vending area, a lounge, and a laundry room. A meal plan is required in the tower halls.



Suites

Dependent upon the building, single bedroom options are available in one-, two-, three-, and four-bedroom units. Double bedroom options allow four residents to live together with two occupants sharing each bedroom. All suites have a shared common area and bathroom in each unit. All residents living in suites are required to have a meal plan.



Apartments

On-campus apartments offer students a more private living environment and require a more self-reliant lifestyle. Most apartments are four-bedroom units, with one student assigned to each bedroom. The four students share a bathroom area and kitchen, complete with appliances and a living/dining space. Levine Hall offers four-bedroom apartments in addition to suites. Belk Hall offers a limited number of one-bedroom apartments in addition to the traditional four-bedroom apartment units. A meal plan is optional for upper-class students, allowing students the experience of buying and preparing their own food, if they so desire.



Greek Village

Greek Village houses up to thirteen fraternities, sororities, and, in some cases, independent students. Each house has a chapter/living room and kitchen for common use and holds 28 or 14 students.

Summer Housing

For information about summer housing, please contact the Housing and Residence Life Office or visit housing.charlotte.edu/apply/summer-housing.

Applying For Housing

Students who plan to live on campus should apply as soon as possible, as assignments are made according to a combination of factors including: date of completed application, community preferences, roommate requests, space availability, class year, and building/room preferences. Application for housing may be made online at housing.charlotte.edu following the student's admission to the University. For new student applicants, a $200 deposit is required with the application in order for it to be considered complete.

Accommodations for Students with Disabilities

Housing facilities designed specifically for students in wheelchairs are available. Wheelchair users who receive confirmation of residential space have priority in assignment to these facilities *as long as the University is able to offer space*. It is extremely important that the housing application is received before all space is committed so that this priority for assignment to appropriate facilities can be exercised. Students utilizing wheelchairs may be considered for priority status on the waiting list on the basis of: (1) the date of completed application and (2) the degree of utilization of wheelchair-equipped facilities as compared to the proportion of wheelchair students who apply.

Assignment to a disability accessible housing space requires documentation of the disability and special needs in accommodations by the Office of Disability Services. Documentation must be provided to Disability Services when the housing application is submitted and no later than June 1. The University does not assume any responsibility for the provision of attendants for students with disabilities. Such arrangements are entirely the responsibility of the individual student and should be established well in advance of the time the services are to begin.

International Programs

oip.charlotte.edu

Office of International Programs

The Office of International Programs (OIP) 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. The Office of International Programs serves as a center of leadership and responsibility for the international role and mission of the University. OIP constituent units include OIP Administration (OIPA), 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, OIP is the campus host for the World Affairs Council of Charlotte.

OIP Administration

The Office of International Programs Administration unit (OIPA) includes the Assistant Provost, the finance office, and administrative staff. OIPA provides overall leadership and direction for the Office of International Programs 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 programing, OGEE supports OIP's public service work to initiate and respond to the international needs and interests of the Charlotte 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 virtual 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, short-term, or virtual 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 and visiting scholars in achieving their educational 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; and otherwise supports 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 annually. The ISSO also supports diversity programs to encourage international and domestic students' interaction, such as the International Coffee Hour, Friendship and Culture Exchange Program, and the 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 graduate teaching assistants at UNC Charlotte for whom English is a second 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 communities.

World Affairs Council of Charlotte

Founded in 1983, The World Affairs Council of Charlotte (WACC) serves as a community outreach program for the Office of International Programs 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 3.8 million physical items, including almost 13,000 rare books, the Library continuously develops its digital collections and currently provides access to over 85,000 electronic journals, 600 databases, and 1.2 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 desk on the 1st floor, and one-on-one consultations for deeper, subject-related research guidance. Students and classes conduct research with rare materials and archives 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. Atkins peer assistants offer point-of-need help with equipment, printing, and using library spaces and resources. The Circulation 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, chat with staff, and schedule/check-in for study rooms. The Office of OneIT maintains its walk-up help desk in Room 140C, while the University Speaking Center advises students in Room G33, and the Writing Resources Center offers some of its hours in G31. Tutorial Services conducts some tutoring sessions on the ground floor.



Facilities

The Library features study and collaboration spaces for all needs including 57 reservable group study rooms, Graduate and Silent Study rooms, and collaborative tables, seating areas, and enclosures throughout the building. The entire building features wireless access as well as more than 400 computers (Macs and PCs). Library computers feature a variety of adaptive software supplemented by a dedicated room with assistive technologies next to the Circulation Desk. Students check out calculators, chargers, and laptops for 24 hours from the Circulation Desk. Atkins offers 137 loaner laptops, both PCs and Macs, at the Circulation Desk and another 30 in a laptop vending machine at the College of Health and Human Services building. Students can experiment with new technologies (3D printers, cameras, etc.) from the Technology Support Desk, which supports the Visualization Lab, MakerSpace, Gaming Lab, EZ Video Studio, and other specialized spaces on the 2nd floor. A Photogrammetry Lab was recently added on the 1st Floor near the Circulation Desk. Other features include device-charging stations and fit/alternative study equipment. Vending machines offer office supplies, coffee/beverages, and other food to supplement the offerings of the Library Café 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. Together, the three departments present nearly 100 performances each year for the public.

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 the Student Health Center. 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, Rape Aggression Defense (R.A.D) training class dates, 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.

Student Engagement

Student Engagement is committed to cultivating equity and justice while building community and developing students' knowledge and skills through experiential learning.

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

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, including periodic transfers.

Niner Times
Niner Times is UNC Charlotte's weekly student newspaper published on Tuesdays. It prints news, entertainment, sports, and more. More than 3,500 copies are distributed at more than 80 locations both on and off campus. The student-produced publication provides journalism experience to more than 80 student leaders.

NinerTimes.com
Ninertimes.com features breaking news and exclusive content including columns, photos, and video. UNC Charlotte news, sports, and features are posted several times each week.

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 and internship opportunities 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. Submissions are professionally juried, and selections are published in the annual edition of the magazine. The magazine is published in April.

Uptown Audio
This UNC Charlotte-based podcast network that produces a variety of shows for any listener. Listen at uapodcasts.com.

Technical Operations
The Technical Department is responsible for updating and maintaining Student Niner Media's websites and social media presence. They provide equipment and software training to all departments of Student Niner Media.

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*.

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 and Community Engagement

Leadership and Community Engagement provides students with opportunities to develop and strengthen leadership skills and understanding while providing the University and student organizations with more effective leadership. Programs consist of group and self-paced leadership workshops, retreats, and conferences, as well as academic courses. Individual and group consultation is also available. Opportunities for service include the Jamil Niner Food Pantry, Alternative Service Breaks, and a variety of monthly service projects in the greater Charlotte area coordinated by the SERVE team.

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 break activities and engage in direct service in a community outside of their own.

Bonner Leaders
The Bonner Leaders Program is an intensive, four-year community engagement opportunity for undergraduates who work in Charlotte-based institutions and agencies. This program is directed by the Office of Urban Research and Community Engagement.

Emerging Leaders
The Emerging Leaders program provides a cohort leadership experience for freshmen (applications available early Fall semester).

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 upperclassmen (applications available 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.

Noble Niner Institute
The Noble Niner Institute focuses on one or more aspects of a Noble Niner - integrity, respect, accountability, dignity, honor, compassion, character, nobility, and scholarship.

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.

SERVE TEAM
SERVE TEAM creates community service opportunities through connections with local non-profit agencies as well as campus based service and volunteer opportunities.

Women's Leadership Development Program
This cohort-based women's leadership conversation series is a Spring semester offering for students who are currently or have recently served as leaders. It provides the opportunity for interaction with and learning from women who are leaders in our community. Applications are available late Fall semester. Visit leadership.charlotte.edu for more information.

Fraternity and Sorority Life
Fraternity and Sorority Life at UNC Charlotte consists of over 45 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 (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. Outdoor camping gear can be rented. Venture also operates SOAR Outdoor, 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 Outdoor Adventures, Rock Climbing, Challenge Course Activities, Raft Guiding, 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 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, four class presidents, and Executive Cabinet members, who are appointed by the President. The Student Body President serves as a member of the UNC Charlotte Board of Trustees.

Legislative Branch
The Legislative Branch is the Student Senate, which is comprised of the Speaker of the Senate and representatives from each academic college who are elected by the students with majors in the college, as well as at-large representatives for certain constituencies.

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 400 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, and Late Night Breakfast that build spirit and tradition for the Niner Nation.

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 Geography and Earth Sciences*; A.B., Occidental College; MPL, University of Southern California; Ph.D., Cornell University

Lorden, Joan F. (2003); *Provost and Vice Chancellor for Academic Affairs; Professor, Department of Psychological Science*; B.A., City College of New York; M.S., Yale University; Ph.D., Yale University

Gray, Lee E. (1990); *Interim Senior Associate Provost, Professor, School of Architecture*; B.A., Iowa State University; M.Arch., University of Virginia; Ph.D., Cornell University

Abel, Willie M. (2013); *Associate Professor, 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

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

Adams, L. Dean (2013); *Associate Dean of Performing Arts Services, 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

Aggarwal, Ishwar D. (2011); *Research Professor, 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

Aktas, Yildirim M. (1989); *Associate Professor, Department of Physics and Optical Science;* B.S., Middle East Technical University; Ph.D., University of Missouri at Columbia

Aliaga-Buchenau, Ana-Isabel (2002); *Professor, Department of Languages and Culture Studies;* 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 Geography and Earth Sciences;* B.Sc., University of Manitoba; M.Sc., Trent University; Ph.D., York University

Allen, Tyler (2022); *Assistant Professor, Department of Computer Science;* B.S., Western Carolina University; M.S., Clemson University; Ph.D., Clemson 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

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); *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

Amato, Louis (Ted) H. (1980); *Professor, Department of Economics;* A.B., Lenoir-Rhyne College; M.A., University of North Carolina at Greensboro; Ph.D., University of South Carolina

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

Amidei, Allison (2015); *Associate Professor, Department of Theatre;* B.A., Knox College; M.F.A., Carnegie Mellon University

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

Amoui, Shahram (2016); *Lecturer, Department of Dance;* B.M., Berklee College of Music

Anderson, Brittany (2020); *Assistant 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, 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); *Assistant 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 Public Health Sciences;* B.S., Sindh Medical College; M.S., Western Kentucky University; Ph.D., University of Texas at Houston

Armour, Jake (2005); *Lecturer, Department of Geography and Earth 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., St. 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

Astratov, Vasily (2002); *Professor, 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

Auerbach, Bruce (2002); *Professor, Department of Theatre;* B.A., Auburn University; M.F.A., University of Illinois at Urbana-Champaign

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

Avila, JuliAnna (2010); *Associate Professor, Department of English;* B.A., University of Redlands; M.A.Ed., University of California, Berkeley; Ph.D., University of California, Berkeley

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); *Associate 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

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

Bai, Linquan (2019); *Assistant Professor, Department of Systems Engineering and Engineering Management;* B.S., Tianjin University, China; M.S.E.E., Tianjin University, China; Ph.D., University of Tennessee, Knoxville

Baker, Debra D. (2003); *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, 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

Banerjee, Enika (2018); *Lecturer, Department of Languages and Culture Studies;* B.A., Sophia University, Japan; M.A., University of London, England

Banks, Erin R. (2018); *Assistant Dean for Undergraduate Research, Office of Undergraduate Education; Clinical Assistant Professor, Department of Psychological Science*; B.S., Florida A&M University; M.S., Florida A&M University; Ph.D., North Carolina State University

Banks, George C. (2015); *Chair and Professor, Department of Management;* B.A., College of William & Mary; M.A., University of New Haven; Ph.D., Virginia Commonwealth University

Baran, Audrey I. (2020); *Visiting Assistant Professor, Department of Dance;* B.A., University of North Carolina at Charlotte; M.F.A., Hollins University

Barclay, 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

Barfield, Auguste (2022); *Chair and Professor, Department of Applied Physiology, Health, and Clinical Sciences*

Barnes, Meghan (2017); *Assistant 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

Barth, Thomas J. (2016); *Professor, Department of Political Science and Public Administration;* B.A., University of Notre Dame; M.A., The University of Chicago; Ph.D., Virginia Polytechnic Institute and State University

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

Basinger, Erin (2016); *Associate 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 and Culture Studies;* B.A., Manhattan College; M.A., University of Georgia; Ph.D., University of Georgia

Batista Pereira, Frederico (2016); *Assistant 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

Bayer, Ashley (2017); *Lecturer, Office of School and Community Partnerships, Cato College of Education;* B.S., St. John Fisher College; M.S.Ed., St. Bonaventure University

Beach, Kristen D. (2014); *Associate 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 Public Health Sciences;* B.A., Columbia College; M.Div., McCormick Theological Seminary; M.P.H., Columbia University

Beggs, Joyce M. (1989); *Associate Professor, 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

Bejger, Christopher M. (2015); *Associate Professor, Department of Chemistry;* B.S., University of Oregon; Ph.D., University of Texas at Austin

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); *Associate 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, School of Architecture;* B.Arch., Iowa State University; M.S., Columbia University

Berardinelli, Angela (2019); *Senior Lecturer, Department of Computer Science;* B.S., Ursinus College; M.S., University of North Texas; Ph.D., University of North Texas

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

Berry, Christopher A. (2020); *Assistant Professor, Department of Theatre;* B.F.A., North Carolina Agricultural and Technical State University; M.F.A., Brown University

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; Ph.D., University of Colorado

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

Bissière, Michèle (1990); *Chair and Professor, Department of Languages and Culture Studies;* M.A., University of Wisconsin at Madison; Ph.D., University of Wisconsin at Madison

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

Blair, Peter A. (2006); *Lecturer, Department of Writing, Rhetoric, and Digital Studies;* B.A., Saint Vincent College; M.A., Duquesne University; Ph.D., University of Iowa

Blanchard, Anita (2001); *Associate 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

Blandford, Cassandra L. (2015); *Lecturer, Department of Writing, Rhetoric, and Digital Studies;* B.A., Miami University; M.A., University of Louisville

Blat, Catherine (2005); *Assistant Dean for Student Experiences, 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

Bledsoe, Jordan R. (2012); *Lecturer, Department of Languages and Culture Studies;* 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

Boardman, Erika D. (2022); *Assistant 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); *Associate 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

Bobyarchick, Andy R. (1983); *Associate Professor, Department of Geography and Earth Sciences;* B.S., Birmingham-Southern College; M.S., Virginia Polytechnic Institute and State University; Ph.D., State University of New York at Albany

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

Bonoffski, Tracy (2007); *Lecturer, Department of Applied Physiology, Health, and Clinical Sciences;* B.S., Cornell University; M.S., Wake Forest University

Boreman, Glenn D. (2011); *Chair and Professor, Department of Physics and Optical Science;* B.S., University of Rochester; M.S., University of Arizona; Ph.D., University of Arizona

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

Bowen, James D. (1996); *Associate Professor, Department of Civil and Environmental Engineering;* B.A., Duke University; M.S., Vanderbilt University; Ph.D., Massachusetts Institute of Technology

Bowling, Jessamyn (2016); *Associate Professor, Department of Public Health Sciences;* B.A., University of North Carolina at Chapel Hill; M.P.H., University of Arizona; Ph.D., Indiana University Bloomington

Boyd, Alice Suzanne (2002); *Associate Professor, School of Social Work;* B.A., University of Virginia; M.S.W., Virginia Commonwealth University; Ph.D., Virginia Commonwealth University

Boyd, David G. (2018); *Assistant Professor, Department of Languages and Culture Studies;* B.A., University of California, Los Angeles; M.A., The University of Tokyo, Japan; M.A., Princeton University; Ph.D., Princeton University

Brais, Sayde (2013); *Lecturer, Department of Communication Studies;* B.A., University of North Carolina at Charlotte; M.A., University of North Carolina at Charlotte

Brandon, Jamie D. (2018); *Clinical Assistant Professor, School of Nursing;* B.S., Winston-Salem State University; M.S., Western Carolina University; D.N.P., Gardner-Webb University

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

Brian, William R. (2017); *Assistant 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); *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); *Assistant 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, College of Liberal Arts & Sciences; Professor, Department of Chemistry*, B.S., Furman University; Ph.D., University of Miami

Brown, Candace S. (2019); *Assistant Professor, Department of Public Health Sciences;* 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); *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, 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

Buch, Kimberly A. (1987); *Professor, Department of Psychological Science;* B.S., Western Kentucky University; M.A., Western Kentucky University; Ph.D., Iowa State University

Buchenau, Jurgen (1998); *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

Bunescu, Razvan (2020); *Associate Professor, Department of Computer Science;* Ph.D., University of Texas at Austin

Bunescu, Razvan (2020); *Associate 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

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); *Assistant Professor, Turner School of Accountancy;* B.S., Biola University; M.B.A., Pepperdine University; Ph.D., University of Colorado Boulder

Burton, Hughlene A. (1996); *Associate Professor, Turner School of Accountancy;* B.S., Wake Forest University; Ph.D., The University of Alabama

Butler, Bettie Ray (2011); *Associate 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

Byker, Erik J. (2014); *Associate 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

Cacace, Samantha C. (2021); *Assistant Professor, Department of Public Health Sciences;* A.A., Wake Technical Community College; B.A., North Carolina State University; M.A., North Carolina Central University; Ph.D., Washington State University

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

Cameron, Christopher A. (2010); *Interim 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

Campbell, Harrison S. (1996); *Professor, Department of Geography and Earth Sciences;* B.A., Clark University; M.A., University of Illinois at Urbana-Champaign; Ph.D., University of Illinois at Urbana-Champaign

Campbell, Malcolm W. (2011); *Lecturer, Department of Writing, Rhetoric, and Digital Studies;* B.A., University of North Carolina at Chapel Hill; M.F.A., Vermont College of Fine Arts

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

Canello, Jacopo (2016); *Assistant Professor, Department of Geography and Earth 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); *Associate Professor, Department of Psychological Science;* B.S., North Dakota State University; M.A., University of Houston; Ph.D., University of Houston

Cao, Lijuan (2016); *Teaching Associate 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

Carlson-Reddig, Kelly J. (1992); *Associate Director and Associate Professor, School of Architecture;* B.Arch., Texas Tech University; M.E.Des, Yale University

Carman, Joanne G. (2005); *Associate 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

Carrizosa, Richard (2020); *Visiting Assistant Professor, Turner School of Accountancy;* B.S., Johns Hopkins University; Ph.D., New York University

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); *Associate Professor, Department of Theatre;* B.A., University of Puerto Rico; M.F.A., Dell'Arte International School of Physical Theatre

Case, Andrew D. (2015); *Associate Professor, Department of Psychological Science;* B.S., Florida A&M University; M.A., University of Illinois at Urbana-Champaign; Ph.D., University of Illinois at Urbana-Champaign

Cash, Anne H. (2014); *Associate Professor, Department of Reading and Elementary Education;* B.S., Furman University; Ph.D., University of Virginia

Cathey, Jack M. (1988); *Associate Professor, Turner School of Accountancy;* B.S., Wake Forest University; M.Acc., Virginia Polytechnic Institute and State University; Ph.D., Virginia Polytechnic Institute and State University; C.P.A.,

Cavalline, Tara L. (2006); *Associate 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); *Assistant 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

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); *Associate 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); *Assistant Professor, Department of Geography and Earth Sciences;* B.Sc., Wuhan University, China; M.Sc., Wuhan University, China; Ph.D., University of Calgary

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 Public Health Sciences;* B.S., Nanjing University, China; Ph.D., Pennsylvania State University

Chen, Youxing (2019); *Research Assistant 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); *Associate 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); *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); *Chair and Associate Professor, Department of Finance;* B.A., National Taiwan University, Taiwan; M.B.A., National Chengchi University; Ph.D., Boston College

Chiarella, Maria-Carla (2011); *Lecturer, Department of Psychological Science;* B.A., Central College; M.S., Colorado State University; Ph.D., Colorado State University

Chowdhury, Badrul H. (2012); *Professor, Department of Electrical and Computer Engineering;* M.S., Virginia Polytechnic Institute and State University; Ph.D., Virginia Polytechnic Institute and State University

Christou, Eliana (2016); *Assistant 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

Cifarelli, Victor V. (1995); *Professor, Department of Mathematics and Statistics;* B.S., University of Connecticut; M.S., Purdue University; Ph.D., Purdue University

Cisneros, Susana (2016); *Lecturer, Department of Languages and Culture Studies;* B.A., National University of Cordoba; M.A., University of North Carolina at Charlotte

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 Digital Archivist, 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

Coffman, Maren J. (2004); *Professor, School of Nursing;* A.S., Weber State University; B.S.N., Weber State University; M.S.N., Syracuse University; Ph.D., University of Connecticut

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

Collins, Larianne (2018); *Lecturer, Department of Geography and Earth Sciences;* B.S., Presbyterian College; M.Ed., University of South Carolina; Ph.D., University of South Carolina

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); *Assistant Professor, Department of Reading and Elementary Education;* B.S., University of Connecticut; M.A., University of Connecticut; Ph.D., University of Connecticut

Connaughton, John E. (1978); *Professor, Department of Economics;* B.A., Boston State College; M.A., Northeastern University; Ph.D., Northeastern University

Conner, Lynne (2016); *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

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); *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

Cooke, Sekou (2021); *Associate Professor, School of Architecture;* B.Arch., Cornell University; M.Arch., Harvard University

Cooper, Brian T. (1997); *Associate Professor, Department of Chemistry;* B.S., Purdue University; Ph.D., University of Arizona

Cooper, Elizabeth A. (2018); *Assistant Professor, Department of Bioinformatics and Genomics;* B.A., Grinnell College; Ph.D., University of Southern California

Cooper, Maisha N. (2018); *Assistant Professor, Department of Criminal Justice and Criminology;* B.S., University of Central Missouri; M.S., University of Central Missouri; Ph.D., Sam Houston State University

Coria-Sanchez, Carlos M. (2001); *Professor, Department of Languages and Culture Studies;* B.A., Georgia State University; M.A., University of Georgia; Ph.D., University of Georgia

Cornelius, Judith B. (2005); *Associate Professor, School of Nursing;* B.S.N., Hampton Institute; M.S.N., Hampton University; D.N.Sc., Rush University

Costanza, David (2020); *Assistant Professor, School of Architecture;* B.S., University of Utah; M.S., Massachusetts Institute of Technology; M.Arch., Massachusetts Institute of Technology

Coston, Charisse T. (1992); *Associate Professor, Department of Criminal Justice and Criminology;* A.A., Ohio University; B.S., University of Cincinnati; M.A., Rutgers University; Ph.D., Rutgers University

Cowan-Hathcock, Misty (1998); *Director, 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, 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, Karen L. (2002); *Professor, Department of History;* B.A., University of North Carolina at Greensboro; M.A., University of North Carolina at Greensboro; Ph.D., University of Mississippi

Cox, Kyle (2019); *Assistant Professor, Department of Educational Leadership;* B.S.Ed., Miami University; M.A., University of Cincinnati; Ph.D., University of Cincinnati

Cox, Robert W. (2006); *Associate Professor, 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); *Associate Professor/Irwin Belk Distinguished Scholar in Health Research, Department of Public Health Sciences;* 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

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, 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, 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

Croxton, Rebecca A. (2017); *Associate Professor and Head of Assessment, J. Murrey Atkins Library;* B.S., Valparaiso University; M.L.I.S., University of North Carolina at Greensboro; Ph.D., University of North Carolina at Greensboro

Cukic, Bojan (2014); *Interim Dean, College of Computing and Informatics; Professor, Department of Computer Science*; M.S., University of Houston; Ph.D., University of Houston

Culbreth, John R. (2004); *Professor, Department of Counseling;* B.S., Appalachian State University; M.A., Appalachian State University; Ph.D., University of North Carolina at Greensboro

Dack, Hilary G. (2015); *Associate 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); *Assistant Professor, Department of Public Health Sciences;* B.A., Juniata College; M.S., University of Delaware; Ph.D., University of South Carolina

Dai, Dong (2018); *Assistant Professor, Department of Computer Science;* B.S., University of Science and Technology of China; Ph.D., University of Science and Technology of China

Dai, Xingde (1990); *Professor, Department of Mathematics and Statistics;* B.A., Fudan University China; M.S., Zhejiang University; M.S., University of Nebraska; Ph.D., Texas A&M University

Dai, Yaoyao (2020); *Assistant Professor, Department of Political Science and Public Administration;* M.A., Duke University; M.A., Pennsylvania State University; Ph.D., Pennsylvania State University

Daise, Debra Ann (2016); *Lecturer, English Language Training Institute;* B.A., University of Colorado Boulder; M.A., University of Colorado Boulder

Dal Pra, Daniela C. (2012); *Visiting Lecturer, Department of Languages and Culture Studies;* 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); *Associate Professor, Department of Languages and Culture Studies;* B.A., Brigham Young University; M.A., Brigham Young University; Ph.D., University of Kansas

Dalton, Jane Emily (2013); *Associate 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

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

Davenport, Casey (2014); *Associate Professor, Department of Geography and Earth Sciences;* B.S., Valparaiso University; M.S., North Carolina State University; Ph.D., North Carolina State University

Davies, Angela (2001); *Professor, Department of Physics and Optical Science;* B.S., University of Oregon; Ph.D., Cornell University

Davies, Matthew A. (2001); *Professor, Department of Mechanical Engineering and Engineering Science;* B.S., Carnegie Mellon University; Ph.D., Cornell University

Davin, Kristin J. (2017); *Associate 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, Christine S. (2005); *Professor, Department of Communication Studies;* B.A., Virginia Polytechnic Institute and State University; M.A., University of North Carolina at Greensboro; Ph.D., University of South Florida

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, Tiffany (2019); *Visiting Assistant Professor and Diversity Resident Librarian, J. Murrey Atkins Library;* B.S., Florida A&M University; M.S., Florida State University

Davis, William S. (2018); *Lecturer, Department of Languages and Culture Studies;* B.A., University of North Carolina at Charlotte; M.A., University of North Carolina at Charlotte

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, Office of Undergraduate Education; Director, University Advising Center*, B.A., St. Joseph's College; M.Ed., Northeastern University; Ed.D., University of Vermont

DeHaven, Mark (2013); *Colvard Distinguished Professor, Department of Public Health Sciences;* B.A., Marietta College; M.A., University of Florida; Ph.D., University of Florida

Delgadillo, Maria L. (2012); *Visiting Lecturer, Department of Languages and Culture Studies;* B.S., University of Central Missouri-Warrensburg; M.A., University of Missouri-Columbia; M.A., University of North Carolina at Charlotte

Delmelle, Elizabeth W. (2012); *Associate Professor, Department of Geography and Earth Sciences;* B.S., James Madison University; M.A., State University of New York at Buffalo; Ph.D., University of North Carolina at Charlotte

Delmelle, Eric M. (2008); *Associate Professor, Department of Geography and Earth Sciences;* B.S., Vrije Universiteit, Belgium; M.A., State University of New York at Buffalo; M.S., State University of New York at Buffalo; Ph.D., State University of New York at Buffalo

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

Depken, Craig A. (2007); *Professor, Department of Economics;* B.A., University of Georgia; Ph.D., University of Georgia

Dewitt, Samuel E. (2016); *Assistant Professor, 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., Rutgers University

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 Public Health Sciences;* B.S., Santo Domingo Institute of Technology, Dominican Republic; M.S., Polytech Marseille, France; Ph.D., University of Texas Health Science Center at Houston

DiBiase, Warren J. (1997); *Associate Professor, 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

Dickey, Rachel (2016); *Associate Professor, School of Architecture;* B.S.Arch., Georgia Institute of Technology; M.D.S., Harvard University; M.Arch., Georgia Institute of Technology

Dickson, Katherine A. (2016); *Associate Professor, J. Murrey Atkins Library;* B.A., University of North Carolina at Chapel Hill; M.S.L.S., University of North Carolina at Chapel Hill; M.A., University of Virginia; J.D., University of Virginia

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); *Associate Professor, Department of Educational Leadership;* B.A.Ed., University of Alberta; M.S., University of Alberta; Ph.D., Virginia Polytechnic Institute and State University

Dils, Ann (2013); *Professor, Department of Dance;* M.A., The Ohio State University; Ph.D., New York 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

Dixon, Melody (1999); *Lecturer, Department of Management;* B.S., Syracuse University; M.B.A., University of Delaware

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); *Chair and Professor, Department of Chemistry;* B.S., Duke University; Ph.D., University of Vermont

Dornburg, Alexis (2020); *Assistant 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); *Associate 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

Doyle, Michael S. (1993); *Professor, Department of Languages and Culture Studies;* B.A., University of Virginia; M.A., Universidad de Salamanca; Ph.D., University of Virginia

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

DuBose, Sequina (2019); *Assistant 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

Dulin, Michael (2016); *Professor, Department of Public Health Sciences;* B.S.E.E., University of Texas at Austin; Ph.D., University of Texas Health Science Center at Houston; M.D., University of Texas Health Science Center at Houston

Duncan, Jennifer (2002); *Lecturer, 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

Dunn, Kaja T. (2016); *Assistant Professor, Department of Theatre;* B.F.A., Roosevelt University; M.F.A., Regent University

Dupre, Daniel S. (1989); *Professor, Department of History;* B.A., Macalester College; Ph.D., Brandeis 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); *Associate Professor, Department of Geography and Earth 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); *Chair and 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); *Assistant Professor, Department of Africana Studies;* B.A., Michigan State University; M.A., Michigan State University; Ph.D., Michigan State University

Edwards, Erika D. (2011); *Associate Professor, Department of History;* B.A., Grand Valley State University; Ph.D., Florida International University

Edwards-Knight, Kevin R. (2019); *Lecturer, School of Social Work;* B.S., Gardner-Webb University; M.S.W., University of North Carolina at Charlotte

Egusa, Shunji (2015); *Associate Professor, 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

Eisner, Mitchell R. (2011); *Clinical Assistant Professor, Department of Reading and Elementary Education;* B.S., Long Island University; M.Ed., Winthrop University; Ed.D., University of North Carolina at Charlotte

Eldridge, Erin R. (2019); *Lecturer, Department of Anthropology;* B.S., Tennessee Tech University; M.A., University of Tennessee, Knoxville; Ph.D., University of Tennessee, Knoxville

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); *Associate Professor, School of Architecture;* B.S., The Ohio State University; M.Arch., Columbia University

Elliott, Gloria (2004); *Professor, Department of Mechanical Engineering and Engineering Science;* B.S., University of Waterloo; M.S., Michigan State University; Ph.D., Michigan State 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); *Professor, 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 Geography and Earth 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 Public Health Sciences;* B.A., Universidad Evangélica de El Salvador, El Salvador; M.Sc., Cornell University; Ph.D., University of South Carolina

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

Evans, Dena A. (2015); *Director and Associate Professor, School of Nursing;* B.S.N., Gardner-Webb University; M.P.H., University of North Carolina at Chapel Hill; M.S.N., University of North Carolina at Chapel Hill; Ed.D., North Carolina State University

Ewers, Michael C. (2019); *Assistant Professor, Department of Geography and Earth 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

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 Geography and Earth 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); *Assistant 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

Fang, Hongbing (2006); *Professor, Department of Mechanical Engineering and Engineering Science;* B.S., Dalian University of Technology, China; M.S., Liaoning University of Technology, China; M.S., Purdue University; Ph.D., Purdue University

Farahi, Faramarz (1990); *Professor, Department of Physics and Optical Science;* B.S., Aryamehr University, Iran; M.S., University of Southampton, England; Ph.D., University of Kent, England

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

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); *Associate 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 and Culture Studies;* 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

Fiddy, Michael (2002); *Professor, Department of Physics and Optical Science; Professor, Department of Electrical and Computer Engineering*; B.Sc., University of London, England; Ph.D., University of London, England

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); *Assistant Professor, Department of Reading and Elementary Education;* B.S., University of Evansville; M.A., Georgetown College; Ph.D., University of Michigan

Fitzgerald, Scott (2003); *Chair and Professor, Department of Sociology;* B.A., Luther College; M.A., Iowa State University; Ph.D., University of Iowa

FitzPatrick, Erin (2017); *Assistant 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

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, School of Architecture;* B.A., Columbia University; M.A., Yale University; M.Arch., Princeton University

Forthofer, Melinda (2016); *Professor, Department of Public Health Sciences;* 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

Foxx, Sejal Parikh (2013); *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

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

Franki, Jamie S. (1996); *Associate Professor, Department of Art and Art History;* B.A., Nazareth College; M.F.A., Syracuse University

Fratantuono, Ella (2016); *Assistant Professor, Department of History;* B.A., University of Richmond; Ph.D., Michigan State University

Freeman, Heather D. (2006); *Professor, Department of Art and Art History;* B.A., Oberlin College; M.F.A., Rutgers University

Frevert, Tonya K. (2018); *Research Assistant Professor, Department of Software and Information Systems;* B.S., Pennsylvania State University; M.A., Northern Arizona University; M.A., University of North Carolina at Charlotte; Ph.D., University of North Carolina at Charlotte

Fried, Nathaniel M. (2006); *Professor, 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

Fuentes, Catherine M. (2008); *Senior Lecturer, 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, Susan R. (1980); *Professor, 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

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, 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

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 A. (2010); *Associate Professor, Department of Geography and Earth Sciences;* B.S., McGill University; Ph.D., Carleton University

Galati, Alexia (2018); *Assistant 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

Gall, David (2009); *Associate Professor, Department of Art and Art History;* B.F.A., Visva-Bharati University, India; M.F.A., Maharaja Sahajirao University of Baroda, India; Ph.D., Pennsylvania State 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); *Associate Dean for Research and Graduate Programs, 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

Garcia, William J. (2004); *Lecturer, Department of Geography and Earth Sciences;* B.A., Washington and Lee University; M.S., Fort Hays State University

Garcia Leon, Javier E. (2019); *Assistant Professor, Department of Languages and Culture Studies;* B.Ed., National Pedagogic University, Colombia; M.A., National University of Colombia; Ph.D., University of Ottawa, Canada

Gargano, Elizabeth (2002); *Associate Professor, Department of English;* B.A., University of Pittsburgh; M.A., University of Pittsburgh; M.F.A., University of Massachusetts; Ph.D., University of Virginia

Garrido Martins, Claudia (2020); *Assistant Professor, Department of Engineering Technology and Construction Management;* M.B.A., Federal University of Rio de Janeiro; M.S., Federal University of Rio de Janeiro; Ph.D., University of New Mexico

Gaub, Janne E. (2019); *Assistant Professor, Department of Criminal Justice and Criminology;* B.S., University of Arizona; M.A., Arizona State University; Ph.D., Arizona State University

Gauger, Nelcyosca K. (2019); *Lecturer, School of Nursing;* B.S.B.A., Santo Domingo Institute of Technology, Dominican Republic; B.S.N., University of North Carolina at Charlotte; M.S., Western Governors 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, Department of Physics and Optical Science;* B.A., The University of Chicago; M.A., University of Rochester; Ph.D., University of Rochester

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 Jiaotong 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 Denver

Gentry, Thomas A. (2007); *Associate Professor, School of Architecture;* B.Arch., University of Arizona; M.Arch., Illinois Institute of Technology

Gerardy, Christopher L. (2014); *Lecturer, Department of Physics and Optical Science;* B.S., California Institute of Technology; Ph.D., Dartmouth 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

Gerges, Awad S. (2012); *Lecturer, Department of Physics and Optical Science;* M.Sc., Military Technical College, Egypt; Ph.D., University of Kent, England

Gero, John (2014); *Research Professor, Department of Computer Science;* B.C.E., University of New South Wales, Australia; M.S., University of Sydney, Australia; Ph.D., University of Sydney, Australia

Gesel, Samantha A. (2019); *Assistant Professor, Department of Special Education and Child Development;* B.A., University of New Hampshire; M.Ed., University of New Hampshire; Ph.D., Vanderbilt University

Ghali, Noha (2017); *Lecturer, Department of Languages and Culture Studies;* B.A., Alexandria University, Egypt; M.A., American University in Cairo, Egypt

Ghasemi, Amirhossein (2017); *Assistant Professor, Department of Mechanical Engineering and Engineering Science;* B.S.M.E., Ferdowsi University of Mashad, Iran; M.S.M.E., Amirkabir 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 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

Gill, Gwendolyn L. (2016); *Lecturer, Office of Student Development and Success, The William States Lee College of Engineering;* B.S.M.E., University of Oklahoma; M.S., North Carolina State University; J.D., University of Cincinnati; M.A., University of North Carolina at Charlotte

Gilles, Paul (2016); *Lecturer, Turner School of Accountancy;* B.A., Western Illinois University; MAcc., Western Illinois University

Gil-Rivas, Virginia (2003); *Professor, Department of Psychological Science;* B.A., Universidad Veracruzana, Mexico; M.A., California State University, Dominguez Hills; Ph.D., University of California, Irvine

Gilson, Cindy (2014); *Associate Professor, Department of Child Development and Special Education;* B.S., University of Connecticut; M.A., University of Connecticut; Ph.D., University of Connecticut

Glass, Tehia Starker (2008); *Associate Professor, Department of Reading and Elementary Education;* 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 and Culture Studies;* 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, John (2020); *Lecturer, Department of Engineering Technology and Construction Management;* B.S., Western Carolina University; M.S., Western Carolina University

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 and Culture Studies;* M.A., Ruhr-University Bochum, Germany; M.A., University of North Carolina at Chapel Hill; Ph.D., University of North Carolina at Chapel Hill

Good, Amy J. (2008); *Associate 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; Ph.D., University of Colorado

Govias, Jonathan (2013); *Assistant Professor, Department of Music;* B.Mus., University of Victoria; M.Mus., 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; M.Engr., Colorado State University

Grandinetti, Justin (2019); *Assistant 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); *Chair and Professor, Department of Communication Studies;* B.A., University of Memphis; M.A., Louisiana State University; Ph.D., Louisiana State University

Graves, William (2000); *Associate Professor, Department of Geography and Earth 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, Bethany (2019); *Assistant Professor and Electronic Resources Management Librarian, J. Murrey Atkins Library;* B.A., University of North Carolina Wilmington; M.A., College of Charleston; M.S.L.S., University of North Carolina at Chapel Hill

Greene, Tisha R. (2018); *Assistant Dean for School and Community Partnerships, 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

Grigorova, Miryana (2017); *Assistant Professor, Department of Mathematics and Statistics;* B.S., Paris Dauphine University; Ph.D., Paris Diderot University (Paris 7)

Groenhout, Ruth E. (2017); *Distinguished Professor of Healthcare Ethics, Department of Philosophy;* B.A., Calvin College; Ph.D., University of Notre Dame

Grymes, James (Jay) (2002); *Professor, Department of Music;* B.M., Virginia Commonwealth University; M.M., Florida State University; Ph.D., Florida State University

Gunn, Laura H. (2018); *Associate Professor, Department of Public Health Sciences;* 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); *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, Xue (2020); *Assistant Professor, Business Information Systems and Operations Management;* M.S., University of Maryland, College Park; Ph.D., Temple University

Guo, Yuqi (2019); *Assistant 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

Hadzikadic, Mirsad S. (1987); *Professor, 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

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); *Assistant 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, Robert Mark (2020); *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 Graduate Academic and Student Affairs, 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 Geography and Earth Sciences;* B.A., Colorado State University; M.A., American University; Ph.D., Temple University

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

Hancock, Dawson R. (1994); *Professor, Department of Educational Leadership;* B.S., United States Military Academy; M.Ed., University of North Carolina at Chapel Hill; M.A., University of North Carolina at Chapel Hill; Ph.D., Fordham University

Hancock, Stephen D. (2004); *Associate Professor, Department of Reading and Elementary Education;* B.A., Virginia Commonwealth University; M.T., Virginia Commonwealth University; Ph.D., Ohio State University

Hanson, Sandy H. (2000); *Lecturer, Department of Communication Studies;* B.S., Louisiana State University; M.S., Florida State University

Harden, Susan B. (2010); *Associate Professor, Department of Middle, Secondary, and K-12 Education;* B.S., Clemson University; M.S., University of North Carolina at Charlotte; Ph.D., University of North Carolina at Greensboro

Harkins, Margaret S. (2011); *Lecturer, The William States Lee College of Engineering;* B.S.C.E., Drexel University; M.S., Drexel University

Harris, Henry (Hank) L. (2004); *Professor, 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, Mary Kim (1984); *Associate Professor, Department of Mathematics and Statistics;* B.S., Auburn University; M.Ed., Auburn University; Ed.D., University of Georgia

Harris, Melanie L.owder (2001); *Lecturer, Department of Biological Sciences;* Dipl., Universite d'Aix-en-Provence, France; B.A., University of North Carolina at Charlotte; M.S., University of North Carolina at Charlotte

Harris, Ryan L. (2017); *Associate Dean for Public Services, and Assistant Professor, 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

Hasan, Mohamed-Ali (1995); *Associate Professor, Department of Electrical and Computer Engineering;* M.S., Linkoping Institute of Technology, Sweden; Ph.D., Linkoping Institute of Technology, Sweden

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 Geography and Earth 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

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); *Professor, Department of Psychological Science;* B.A., Saint Olaf College; M.A., University of Minnesota; Ph.D., University of Minnesota

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); *Associate Professor, Department of Physics and Optical Science;* B.S., National Tsing Hua University, Taiwan; Ph.D., Harvard University

Hess, Sarah E. (2018); *Clinical Assistant Professor, Department of Applied Physiology, Health, and Clinical Sciences;* B.A., Ashford University; M.S., College of Charleston; Ph.D., College of Charleston

Hetyei, Gabor (2000); *Professor, Department of Mathematics and Statistics;* M.S., Eötvös Loránd University, Hungary; Ph.D., Massachusetts Institute of Technology

Hewlin, Rodward (2017); *Assistant 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

Higham, Carol L. (2015); *Visiting Lecturer, Department of History;* B.A., Wellesley College; M.A., Yale University; Ph.D., Duke 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

Hippensteel, Scott (2002); *Associate Professor, Department of Geography and Earth 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

Hofmann, Tino (2016); *Associate Professor, Department of Physics and Optical Science;* M.S., Leipzig University, Germany; Ph.D., Leipzig University, Germany

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 Systems Engineering and Engineering Management;* 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 Geography and Earth Sciences;* B.S., University of St. Thomas; M.S., Purdue University; Ph.D., Purdue University

Hopper, Lorenzo (2018); *Lecturer, Department of Public Health Sciences;* B.A., University of North Carolina at Chapel Hill; M.P.H., East Carolina University

Hopper, Lorenzo N. (2018); *Lecturer, Department of Public Health Sciences;* 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); *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

Houston, Evan G. (1974); *Professor, Department of Mathematics and Statistics;* B.A., Hendrix College; Ph.D., University of Texas at Austin

Howden, Reuben (2008); *Professor, Department of Applied Physiology, Health, and Clinical Sciences;* B.S., Anglia Ruskin University; Ph.D., De Montfort University

Howell, Catherine (Katie) C. (2016); *Assistant Professor and University Archivist, 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); *Chair and Professor, Department of Systems Engineering and Engineering Management;* B.S., Feng Chia University; M.S., Texas Tech University; Ph.D., Texas Tech University

Hsu, Frances (2019); *Visiting Associate Professor, 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); *Executive Director, Center for Graduate Life and Learning;* B.A., University of Michigan-Ann Arbor; M.A., Central Michigan University; Ph.D., Michigan State University

Huet, Yvette M. (1991); *Director, 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

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 Liberal Arts & Sciences;* B.A., West Virginia University; M.A., Liberty University

Hutchens, Thomas C. (2021); *Research Assistant Professor, 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

Hutchison, Charles B. (2003); *Professor, 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

Idziorek, Katherine (2021); *Assistant Professor, Department of Geography and Earth Sciences;* B.Arch., University of Minnesota, Twin Cities; M.Arch., University of Washington; MURP, University of Washington

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

Jacobs, Donald J. (2005); *Professor, 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 and Culture Studies;* B.A., Pforzheim University of Applied Sciences; M.A.T., University of North Carolina at Charlotte

Jalai, Nima (2015); *Assistant Professor, Department of Marketing;* B.S., University of Isfahan, Iran; M.B.A., University of Tehran, Iran; Ph.D., University of Wisconsin-Milwaukee

Janardhanam, Rajaram (1980); *Professor, Department of Civil and Environmental Engineering;* B.S.E., Annamalai University, India; M.S., Annamalai University, India; Ph.D., Virginia Polytechnic Institute and 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

Jarrett, Christopher H. (2009); *Director and Professor, School of Architecture;* B.Arch., University of Oregon; M.S., Columbia University of New York

Jason, Kendra J. (2015); *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); *Associate 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

Johnson, Susan K. (1996); *Professor, Department of Psychological Science;* B.A., Bowdoin College; M.A., New York University; Ph.D., Rutgers University

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); *Lecturer, 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

Jordan, Sarah L. (1997); *Associate Professor, Department of Special Education and Child Development;* B.S., East Carolina University; M.A., East Carolina University; Ph.D., University of Florida

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

Kaffen, Philip (2017); *Assistant Professor, Department of Languages and Culture Studies;* B.A., San Jose State Univeristy; M.A., University of Washington; Ph.D., New York University

Kaloyanides, Alexandra (2017); *Assistant 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

Kampe, Aaron (2012); *Lecturer, Department of Biological Sciences;* B.S., University of North Carolina at Charlotte; M.S., University of North Carolina at Charlotte

Kane, Cheryl (2003); *Lecturer, Department of Management;* B.S., Western Michigan University; M.B.A., Duke University

Kane, Martin R. (1995); *Associate Professor, Department of Civil and Environmental Engineering; Adjunct Associate Professor, Gerontology*, B.S., Michigan State University; M.S., Michigan State University; Ph.D., Michigan State University

Kangmennaang, Joseph (2019); *Assistant Professor, Department of Geography and Earth Sciences;* B.A., University of Ghana; M.A., University of Western Ontario, Canada; Ph.D., University of Waterloo, Canada

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

Kato, Fumie (2002); *Professor, Department of Languages and Culture Studies;* M.Ed., University of Sydney, Australia; Ph.D., University of Sydney, Australia

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

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; 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); *Associate Professor, Department of Civil and Environmental Engineering;* B.S., University of South Florida; M.S.E.E., University of South Florida

Kellermanns, Franz (2013); *Professor, Department of Management;* M.B.A., Indiana University of Pennsylvania; Ph.D., University of Connecticut

Kelly, Michael J. (2005); *Professor, Department of Philosophy;* B.A., University of Massachusetts Boston; Ph.D., Boston University

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); *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

Khire, Milind (2013); *Professor, Department of Civil and Environmental Engineering;* B.E., University of Mumbai; M.S., University of Miami; Ph.D., University of Wisconsin--Madison

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

Killman, Jeffrey A. (2010); *Associate Professor, Department of Languages and Culture Studies;* B.A.Ed., University of New Mexico; M.S., University of Malaga, Spain; Ph.D., University of Malaga, Spain

Kilmer, Ryan P. (1999); *Chair and Professor, Department of Psychological Science;* B.S., University of Washington; M.A., University of Rochester; Ph.D., University of Rochester

Kim, Kyoung-Hee (2010); *Professor, 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); *Assistant 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 and Culture Studies;* B.A., Yonsi University; M.A., Sophia University; Ph.D., University of Oregon

Kimble, Jeffrey T. (1999); *Associate Professor, Department of Engineering Technology and Construction Management;* B.S., Eastern Kentucky University; M.S., Eastern Kentucky University

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

Kissau, Scott P. (2006); *Associate Dean for Research and Graduate Studies, Cato College of Education; Professor, Department of Middle, Secondary, and K-12 Education*; B.A.H., Queen's University, Canada; B.Ed., University of Windsor; M.Ed., University of Windsor; Ph.D., University of Windsor

Klein, Lidia (2018); *Assistant Professor, 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

Klotz, Kelsey (2018); *Lecturer, Department of Music;* B.A., Truman State University; Ph.D., Washington University in St. Louis

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

Koch, Thomas (2016); *Teaching Associate Professor, Department of Mechanical Engineering and Engineering Science;* B.S., Zurich University of Applied Sciences, Switzerland; Ph.D., University of Utah

Kolano, Lan Quach (2004); *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

Koralova, Anastasia (1999); *Teaching Professor, Department of Languages and Culture Studies;* M.A., Moscow State University, Russia; Ph.D., Moscow Linguistics University, Russia

Krause, Sandra (2015); *Assistant Dean for Graduate Academic Services, Graduate School;* B.S., Appalachian State University; M.A., Appalachian State University

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 and Culture Studies;* B.A., University of Georgia; M.A., University of North Carolina at Charlotte

Kronberg, Anne-Kathrin (2018); *Assistant 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); *Director, Center for Global and Public Relations; Professor, 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); *Assistant 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

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); *Professor, School of Social Work;* B.A., Rice University; M.S.W., University of Texas at Austin; Ph.D., University of Texas at Austin

Kumar, Ram L. (1993); *Professor, Department of Business Information Systems and Operations Management;* B.T., Indian Institute of Technology, India; M.B.A., Indian Institute of Management, India; Ph.D., University of Maryland

Kuntzman, Staci (2001); *Lecturer, Department of Communication Studies;* B.A., Marshall University; M.A., Marshall University

Kurnaz, Musab M. (2018); *Assistant Professor, Department of Economics;* B.S., Bilkent University, Turkey; M.A., Sabanci University, Turkey; Ph.D., Carnegie Mellon University

Kustov, Alexander (2021); *Assistant Professor, Department of Political Science and Public Administration;* M.A., Princeton University; Ph.D., Princeton University

La Serna, Jillian J. (2019); *Assistant Professor, Department of Educational Leadership;* B.A., California State University, Sacramento; MSAD, University of North Carolina at Chapel Hill; Ed.D., University of North Carolina at Chapel Hill

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); *Assistant 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 and Culture Studies;* B.A., Indiana University Bloomington; M.A., New York University; Ph.D., Duke 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

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

Langford, David R. (1994); *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, Pamela S. (2004); *Professor, Department of Counseling;* B.A., Coker College; M.S., University of Southern Mississippi; Ph.D., Georgia State University

Latta, Robert D. (2011); *Lecturer, The William States Lee College of Engineering;* B.S., North Carolina State University; M.S., North Carolina State University; M.B.A., University of North Carolina at Charlotte

Lawson-Alonso, Aura (2014); *Visiting Lecturer, Department of Languages and Culture Studies;* 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

Leak, Jeffrey B. (1998); *Professor, Department of English;* 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 and Culture Studies;* B.A., University of Ulsan, South Korea; M.A., Portland State University

Lee, Ming-Chun (2013); *Associate Professor, 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); *Assistant Professor, Department of Computer Science;* B.S., Korea Aerospace University; M.S., Korea Aerospace University; Ph.D., Colorado State University

Leeman, Carol B. (1997); *Lecturer, Department of Communication Studies;* B.A., University of North Carolina at Charlotte; M.A., Wake Forest University

Leeman, Richard W. (1989); *Senior Associate Dean for Academic Personnel and Budget, College of Liberal Arts & Sciences; Professor, Department of Communication Studies*; B.S., Shippensburg State College; M.A., University of Maryland; Ph.D., University of Maryland

Leilabady, Pedram (2005); *Lecturer, 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

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 Professor, Department of English;* B.A., Duke University; M.A., Northwestern University; Ph.D., Northwestern University

Li, Shaoyu (2014); *Associate 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, Xingjie (2015); *Associate Professor, Department of Mathematics and Statistics;* B.S., Fudan University, China; M.S., University of Minnesota; Ph.D., University of Minnesota

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

Light, Lydia E.O. (2016); *Assistant Professor, Department of Anthropology;* B.S., University of Miami; M.A., University of Texas at San Antonio; Ph.D., University of Texas at San Antonio

Lim, Churlzu (2006); *Associate Professor, Department of Systems Engineering and Engineering 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., 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

Lin, Hwan-Chyang (1993); *Associate Professor, 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

Lin, Yunfeng (2022); *Research Assistant Professor, Department of Biological Sciences;* B.Pharm., Shandong University, China; M.S., Tsinghua University; Ph.D., Jackson State University

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); *Associate Professor, Department of Music;* B.A., University of Nebraska; M.M., University of Nebraska; D.M.A., University of Colorado 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); *Associate 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); *Assistant 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

Long, N. Bruce (2003); *Lecturer, Department of Software and Information Systems;* B.S., Park University; M.S., Boston University

Long, Sheri Spaine (2013); *Professor, Department of Languages and Culture Studies;* B.A., University of Iowa; M.A., University of Iowa; Ph.D., University of California, Los Angeles

Looby, Kimberly A. (2018); *Assistant 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-Duarte, Maria Paola C. (2018); *Assistant Professor, Department of Biological Sciences;* B.S., Florida Institute of Technology; Ph.D., Florida Institute of Technology

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

Lottman, Maryrica O. (2002); *Associate Professor, Department of Languages and Culture Studies;* B.A., Hollins University; M.F.A., Pennsylvania State University; M.A., Princeton University; Ph.D., Princeton University

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

Lunsford, Ronald F. (1991); *Professor, 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

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

Luo, Wenhao (2021); *Assistant Professor, Department of Computer Science;* M.S., Carnegie Mellon University

Luttecke, Kristen (2012); *Assistant Professor, Turner School of Accountancy;* B.S., California State University; Ph.D., University of Colorado Boulder

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, 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 Geography and Earth Sciences;* B.S., University of Arizona; Ph.D., University of Washington

Maguire, Joanne (1996); *Chair and Professor, Department of Religious Studies;* B.A., Connecticut College; M.T.S., Harvard Divinity School; Ph.D., The 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

Mahaffey, Maria E. (2012); *Lecturer, Department of Languages and Culture Studies;* B.A., National Autonomous University of Mexico; M.A., University of Granada

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); *Assistant Professor, Department of Electrical and Computer Engineering;* B.S.E, Jadavpur University, India; Ph.D., University of Maryland

Makas, Emily G. (2007); *Associate Professor, School of Architecture;* B.A., University of Tennessee; M.S., Columbia University; Ph.D., Cornell University

Manack, Marc (2016); *Associate Professor, 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

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

Marino, Joseph S. (2013); *Associate Professor, Department of Applied Physiology, Health, and Clinical Sciences;* B.A., Adelphi University; M.A., Adelphi University; Ph.D., University of Toledo

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); *Assistant Professor, Department of Psycological Science;* B.A., Cornell University; M.A., New York University; Ph.D., New York University

Marks, Jeremy A. (2018); *Assistant Professor, Department of Music;* B.M., Bowling Green State University; M.M., Western Michigan University; D.M.A., University of Texas at Austin

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

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, Florence (2014); *Professor, Department of Educational Leadership;* B.S.E., Bharathiyar University; M.Ed., Arizona State University; Ph.D., Arizona State University

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 Boulder

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

Matthews, Michael S. (2008); *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

Mazzola, Michael S. (2017); *Duke Energy Distinguished Professor and EPIC Director, Department of Electrical and Computer Engineering;* B.S.E.E., Old Dominion University; M.S.E.E., Old Dominion University; Ph.D., Old Dominion University

Mazzotti, Valerie L. (2018); *Professor, Department of Special Education and Child Development;* B.F.A., Georgia State University; M.Ed., University of Nevada, Las Vegas; Ph. D., University of North Carolina at Charlotte

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

McAlpine, John R. (2016); *Visiting Teaching Professor, Department of Mechanical Engineering and Engineering Science;* B.S., Clemson University; M.S., Clemson University

McAnulty, Richard D. (1990); *Associate Professor, Department of Psychological Science;* B.A., Harding University; M.S., Northeast Louisiana University; Ph.D.; Ph.D., University of Georgia

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

McCloud, Sean P. (2003); *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); *Assistant Professor, Department of Special Education and Child Development;* B.S., Murray State Univeristy; M.S., Murray State Univeristy; Ph.D., University of Georgia

McCormick, Elizabeth L. (2019); *Assistant Professor, 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

McGoff, Kevin A. (2015); *Associate 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); *Associate 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

McGregor, Rob Roy (1991); *Professor, Department of Economics;* B.A., Clemson University; M.A., Clemson University; Ph.D., University of South Carolina

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 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, Mary (2003); *Lecturer, Department of Sociology;* B.A., North Carolina State University; M.S., North Carolina State University

Medina, Adriana L. (2007); *Associate 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); *Associate Professor, Department of Languages and Culture Studies;* B.A., Wake Forest University; M.A., Kent State University; Ph.D., Kent State University

Melnikoff, Kirk (2002); *Professor, Department of English;* B.A., Lehigh University; M.A., Boston University; Ph.D., Boston University

Mencagli, Mario J. (2019); *Assistant Professor, Department of Electrical and Computer Engineering;* B.S., University of Siena, Italy; M.S., University of Siena, Italy; Ph.D., University of Siena, Italy

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); *Associate Professor, School of Social Work;* B.S., University of Florida; M.S.W., Florida State University; Ph.D., Florida State University

Merkert, Jon W. (2003); *Lecturer, Department of Chemistry;* B.S., Colorado State University; Ph.D., University of Vermont

Merlin-Knoblich, Clare P. (2015); *Associate 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

Michael, Susan K. (2007); *Lab Coordinator and Lecturer, Department of Chemistry;* B.A., Augustana College; M.S., University of North Carolina at Charlotte

Mickelson, Ann M. (2019); *Assistant 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; Adjunct Professor, 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); *Visiting Instructor, Department of Music;* B.M., University of Kentucky; M.M., Florida State University; D.M., Florida State University

Miller, Candace Nicole (2021); *Assistant Professor, Department of Sociology;* B.A., Old Dominion University; M.A., University of North Carolina at Charlotte; Ph.D., University of Virginia

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); *Associate 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); *Assistant 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

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

Mixon, Gregory (1999); *Professor, Department of History;* B.A., Washington University; M.A., Ph.D.; Ph.D., University of Cincinnati

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

Mohiuddin-Jacobs, Farida (2015); *Lecturer, 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

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

Monaghan, Robert (2012); *Lecturer, Turner School of Accountancy;* B.S., University of North Carolina at Charlotte; A.C.C., University of North Carolina at Charlotte

Monge, Adriana O. (2014); *Assistant Professor, Department of Mathematics and Statistics;* B.S., Universidad de Sonora, Mexico; M.S., Universidad de Sonora, Mexico; Ph.D., University of Warwick, England

Montanaro, Erika A. (2016); *Assistant Professor, Department of Psychological Science;* B.S., Arizona State University; M.S., University of New Mexico; Ph.D., University of Colorado

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); *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); *Assistant Professor and Education Librarian, J. Murrey Atkins Library;* B.A., Lehigh University; M.A., City College of New York; M.L.S., Queens University of Charlotte

Moore, Anne Cooper (2015); *Dean, J. Murrey Atkins Library;* B.A., Duke University; M.L.I.S., University of North Carolina at Chapel Hill; Ph.D., New Mexico State University

Moore, Jonathan B. (2020); *Assistant Professor and User Experience (UX) Librarian, J. Murrey Atkins Library;* B.A., Elon University; M.S.L.S., University of North Carolina at Chapel Hill

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 and Culture Studies;* 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 Carloina at Charlotte

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

Mostafavi, M. Taghi (1986); *Associate Professor, Department of Computer Science;* B.S., Oklahoma State University; M.S., Oklahoma State University; Ph.D., Oklahoma State University

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

Mraz, Maryann (2002); *Professor, Department of Reading and Elementary Education;* B.A., John Carroll University; M.Ed., John Carroll University; Ph.D., Kent 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); *Associate Dean for Research and Graduate Education, College of Liberal Arts & 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

Muller, Brook W. (2019); *Dean, College of Arts + Architecture; Professor, School of Architecture*; B.A., Brown University; M.Arch., University of Oregon

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

Munroe, Jennifer A. (2004); *Professor, Department of English;* A.M., University of Illinois at Urbana-Champaign; Ph.D., University of Illinois at Urbana-Champaign

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

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

Mynatt, Patricia (2010); *Associate Dean 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

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 (2022); *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); *Chair 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

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 Professor, Department of Dance;* B.A., Butler University; M.F.A., University of North Carolina at Greensboro

Nesbit, Jeffrey (2015); *Visiting Assistant Professor, 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); *Associate Professor, Department of Physics and Optical Science;* B.S., Kazan State University, Russia; Ph.D., Kazan State University, Russia

Nesmelova, Irina (2010); *Professor, 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

Newton, Jason (2022); *Lecturer, Department of History;* B.A., Syracuse University; Ph.D., Syracuse University

Newton, Xiaoxia (2018); *Associate 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

Nicholas II, Thomas (2006); *Chair and Associate Professor, Department of Engineering Technology and Construction Management;* A.S., Fairmont State College; B.S., Fairmont State College; B.S., West Virginia University; M.S., West Virginia University

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

Nicolaides, Kathleen M. (2004); *Senior Lecturer, Department of Criminal Justice and Criminology;* B.A., Duke University; J.D., Emory University

Nilsson, Isabelle M. (2015); *Associate Professor, Department of Geography and Earth Sciences;* B.S., Luleå University of Technology; M.A., University of Toledo; Ph.D., University of Toledo

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

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, Communication Across the Curriculum; Associate 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

Obie Nelson, Krystion S. (2017); *Lecturer, Department of History;* B.A., University of North Carolina at Charlotte; M.A., University of North Carolina at Charlotte

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

Ogundiran, Akinwumi O. (2008); *Professor, Department of Africana Studies;* B.A., Obafemi Awolowo University, Nigeria; M.S., University of Ibadan, Nigeria; Ph.D., Boston University

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

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); *Visiting Distinguished Professor, 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

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 Systems Engineering and Engineering Management;* B.S., Eötvös Loránd University; M.S., University of Arizona; Ph.D., University of Arizona

Ozelkan, Agnes G. (2019); *Lecturer, Department of Systems Engineering and Engineering Management;* B.S., Eötvös Loránd University, Hungary; M.S., University of Arizona; Ph.D., University of Arizona

Ozelkan, Ertunga C. (2004); *Professor, Department of Systems Engineering and Engineering Management;* B.A., Bogaziçi University; M.S., University of Arizona; Ph.D., University of Arizona

Paddock, Jonathan C. (2010); *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 and Culture Studies;* B.S., Georgetown University; M.S., Georgetown University; Ph.D., Georgetown University

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, Yinghao (2018); *Assistant 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

Papanikolaou, Dimitrios (2017); *Professor, School of Architecture;* M.S., Massachusetts Institute of Technology; D.Des., Harvard University

Paquette, Elisabeth (2017); *Assistant Professor, Department of Philosophy;* M.A., University of Guleph, Canada; Ph.D., York University, Canada

Parajuli, Jyotsana (2020); *Assistant Professor, School of Nursing;* B.S.N., Tribhuvan University, Nepal; M.S., Miami University; Ph.D., Pennsylvania State University

Park, Albert (2018); *Assistant Professor, Department of Software and Information Systems;* B.S., Virginia Polytechnic Institute and State University; M.S., Virginia Polytechnic Institute and State University; Ph.D., University of Washington

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

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 Professor, Department of Biological Sciences;* B.S., University of North Carolina at Chapel Hill; Ph.D., North Carolina State University

Pascucci, Justin N. (2022); *Lecturer, School of Nursing;* B.S., Hartwick College; M.S.N., State University of New York, Empire State College; D.N.P., Chamberlain College

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

Paul, Rajib (2017); *Associate Professor, Department of Public Health Sciences;* B.S., Ramakrishna Mission Residential College, Narendrapur, India; M.S., Indian Institute of Technology, India; Ph.D., Ohio State University

Payne-Wiens, Elena (2013); *Assistant Dean for Advising and Assessment, College of Arts + Architecture;* B.A., Pomona College; M.A.Ed., Stanford 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); *Chair and Associate 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

Peedin, Shana Funderburk (2003); *Lecturer, Department of Mathematics and Statistics;* B.S., University of South Carolina Upstate; M.A., University of North Carolina at Charlotte

Pennington, Robert C. (2018); *Professor and Snyder Distinguished Scholar, Department of Special Education and Child Development;* B.S., University of Louisville; M.Ed., University of Louisville; Ph.D., University of Kentucky

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

Peterson, Nicole D. (2010); *Associate 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); *Senior Associate Dean, 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

Piao, Taichun (2022); *Clinical Assistant Professor, Department of Finance;* B.S., Northwest University, China; M.S., Rensselaer Polytechnic Institute; Ph.D., University of North Carolina at Charlotte

Piatak, Jaclyn S. (2013); *Associate 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); *Associate 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); *Associate Professor, Department of Reading and Elementary Education;* B.A., University of Miami; M.S., University of Miami; Ph.D., University of Miami

Piper, Crystal N. (2009); *Associate Professor, Department of Public Health Sciences;* B.S., University of South Carolina; M.P.A., Des Moines University; M.H.A., Des Moines University; Ph.D., University of South Carolina

Pipkin, Amanda (2008); *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 Public Health Sciences;* 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); *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); *Assistant Professor, Department of Physics and Optical Science;* M.S., National Institute for Research in Astrophysics, Italy; Ph.D., National Institute for Research in Astrophysics, Italy

Post, Phyllis B. (1989); *Professor, Department of Counseling;* A.B., University of North Carolina at Chapel Hill; M.Ed., University of North Carolina at Charlotte; Ph.D., University of Wisconsin

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 and Culture Studies;* M.A., University of Hamburg, Germany

Poutous, Menelaos (2013); *Associate Professor, Department of Physics and Optical Science;* B.S., Fairleigh Dickinson University; M.S., Fairleigh Dickinson University; Ph.D., Georgia Institute of Technology

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., University of Delhi, 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, and Assistant Professor, 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

Pugalee, David K. (1997); *Director, 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

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); *Associate Professor, Department of Languages and Culture Studies;* M.B.A., The The University of Chicago; M.A., University of South Carolina at Columbia; Ph.D., The University of Kansas

Pulugurtha, Srinivas S. (2005); *Professor, Department of Civil and Environmental Engineering;* B.S., Acharya Nagarjuna University, India; M.S., Indian University of Technology, India; Ph.D., University of Nevada

Putman, S. Michael (2011); *Professor, 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

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

Radford, Benjamin J. (2019); *Assistant Professor, Department of Political Science and Public Administration;* B.A., University of North Carolina Asheville; M.A., Duke University; Ph.D., Duke 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

Raja, Jayaraman (Jay) (1989); *Professor, 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

Raja, M. Yasin (1990); *Professor, Department of Physics and Optical Science;* B.A., Punjab University, Pakistan; M.S., University of Islamabad, Pakistan; M.A., University of Islamabad, Pakistan; Ph.D., University of New Mexico

Rajagopalan, Angela M. (2005); *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); *Teaching Associate Professor, Department of Computer Science;* B.S., Bangalore University; M.S.; Ph.D., North Carolina State University

Ramsey, Sonya Y. (2007); *Professor, Department of History;* B.A., Howard University; M.A.; Ph.D., University of North Carolina at Chapel Hill

Rand, Meaghan C. (2011); *Lecturer, Department of Writing, Rhetoric, and Digital Studies;* B.A., University of Connecticut; M.A., University of Texas at Arlington

Randle, Vikki N. (2018); *Clinical Assistant Professor, Department of Management;* 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

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

Raymond, Lynn C. (2006); *Lecturer, Department of Writing, Rhetoric, and Digital Studies;* B.A., University of North Carolina at Charlotte; M.A., University of North Carolina at Charlotte

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

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

Reeves, John C. (1996); *Professor, 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

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

Reimer, Robert C. (1971); *Professor, Department of Languages and Culture Studies;* B.A., University of Wisconsin; M.A., University of Kansas; Ph.D., University of Kansas

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); *Associate 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); *Professor, Department of Biological Sciences;* B.A., Illinois Wesleyan University; M.S., University of Florida; Ph.D., Boston University

Reppenhagen, David A. (2018); *Assistant Professor, Turner School of Accountancy;* B.B.A., University of Georgia; M.Acc., University of Georgia; Ph.D., Emory University

Reynolds, Valerie S. (2015); *Lecturer, Department of Geography and Earth Sciences;* B.S., University of North Carolina at Wilmington; M.S., University of Tennessee; Ph.D., University of Tennessee

Riazi, Zeinab (Sara) (2020); *Visiting Assistant Professor, Department of Computer Science;* M.S., University of Oregon; Ph.D., University of Oregon

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); *Chair and Professor, Department of Biological Sciences;* A.B., Princeton University; M.A., Columbia University; M.Ph., Columbia University; Ph.D., Columbia University

Richardson, Sonyia (2013); *Lecturer, School of Social Work;* B.A., University of North Carolina at Charlotte; M.S.W., University of North Carolina at Chapel Hill

Richardson, Sonyia (2020); *Assistant Professor, School of Social Work;* B.A., University of North Carolina at Charlotte; M.S.W., University of North Carolina at Chapel Hill

Rieman, Janice E. (2007); *Lecturer, 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

Riffe, Nancy A. (2018); *Lecturer, Department of Communication Studies;* B.A., George Mason University; M.A., University of Alabama; Ph.D., University of Alabama

Rinalducci, Jennifer (2016); *Assitant 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

Ring, Brian J. (2019); *Clinical Assistant Professor, Department of Applied Physiology, Health, and Clinical Sciences;* B.S., University of North Carolina at Charlotte; M.S., University of North Carolina at Charlotte

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); *Associate Professor, Department of Languages and Culture Studies;* 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, Sandra L. (2018); *Research Assistant Professor, Department of Reading and Elementary Education;* B.A., Randolph College; M.A., Fairfield University; Ph.D., University of South Carolina

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

Rooshenas, Amirmohammad (2020); *Assistant Professor, Department of Computer Science;* B.S., Shahid Beheshti University, Iran; M.S., Sharif University of Technology, Iran; M.S., University of Oregon; Ph.D., University of Oregon

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); *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); *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); *Assistant 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, 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

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

Rutledge, Philip L. (1999); *Lecturer, Department of Sociology;* B.A., University of North Carolina at Greensboro; M.A., University of North Carolina at Greensboro

Ryan, Deborah E. (1985); *Professor, School of Architecture; Adjunct Assistant Professor, Women's and Gender Studies*; B.L.Arch., North Carolina State University; M.L.Arch., Harvard 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

Saenz-Ludlow, Adalira (1995); *Professor, Department of Mathematics and Statistics;* B.S., Universidad Pedagogica Nacional; M.S., State University of New York at Fredonia; Ed.D., University of Georgia

Safronov, Oleg (2005); *Associate Professor, Department of Mathematics and Statistics;* M.Sc., St. Petersburg State University; Ph.D., Royal Institute of Technology

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

Sanders, Bridgette T. (1989); *Associate Professor and Social Sciences Librarian, J. Murrey Atkins Library;* B.S., South Carolina State University; M.S.L.I.S., Atlanta University

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

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); *Assistant Professor, Department of Dance;* B.S., Calcutta University, India; M.S., Texas A&M University; Ph.D., Ohio State University

Sarunac, Nenad (2011); *Research Professor, Energy Production and Infrastructure Center (EPIC);* B.S., University of Zagreb, Croatia; M.S., University of Zagreb, Croatia; Ph.D., Lehigh 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

Sauda, Eric J. (1977); *Professor, School of Architecture;* A.B., Princeton University; M.Arch., University of California, Los Angeles

Saule, Erik (2013); *Associate 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 and Culture Studies;* B.A., Nanjing University, China; M.A., University of Virginia

Sawhney, Monika (2017); *Associate Professor, Department of Public Health Sciences;* B.S., University of Baroda, India; M.S.W., University of Baroda, India; M., Academy of Human Resources Development, India; Ph.D., Tulane University

Saydam, A. Cem (1986); *Professor, Department of Business Information Systems and Operations Management;* B.S., Bogazici University; Ph.D., Clemson University

Scarborough, Beth (2018); *Assistant Professor and Instruction and Information Literacy Librarian, J. Murrey Atkins Library;* B.A., Clemson University; M.L.S., University of North Carolina at Greensboro

Scheff, Jacob S. (2017); *Assistant Professor, Department of Geography and Earth 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); *Associate Professor, Department of Bioinformatics and Genomics;* B.S., Texas A&M University; Ph.D., Iowa State University

Schmedake, Thomas (2002); *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, Thomas M. (2013); *Associate Professor, Department of Art and Art History;* B.A., Loyola University; M.F.A., Alfred University

Schmitz, Dawn (2012); *Associate Dean for Special Collections and University Archives, 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

Schmitz, Tony L. (2011); *Professor, Department of Mechanical Engineering and Engineering Science;* B.S., Temple University; M.S., University of Florida; Ph.D., University of Florida

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

Schneider, Stanley S. (1985); *Professor, Department of Biological Sciences;* B.S., Southwest Texas University; M.S., Southwest Texas University; Ph.D., University of California, Davis

Schulkind, Lisa (2014); *Associate Professor, Department of Economics;* B.A., Union College; M.A., University of California, Davis; Ph.D., University of California, Davis

Schwarz, Peter M. (1978); *Professor, Department of Economics;* B.S., City College of New York; M.A., Ohio State University; Ph.D., Ohio State University

Scott, Clifton W. (2005); *Professor, Department of Communication Studies;* B.S., Bradley University; M.A., Northern Illinois University; Ph.D., Arizona State University

Scott, Sara H. (2003); *Lecturer, Department of Computer Science;* B.A., Agnes Scott College; M.B.A., Georgia 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

Sevin, Suzanne K. (2001); *Clinical Professor, Turner School of Accountancy;* B.S., Southeastern Louisiana University; M.B.A., University of New Orleans; Ph.D., University of Georgia

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

Shaban, Wafaa (2003); *Lecturer, 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

Shaikh, Samira (2016); *Associate Professor, Department of Computer Science;* B.S.C.E., Lalbhai Dalpatbhai College of Engineering, India; M.S., State University of New York at Albany; Ph.D., State University of New York at Albany

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

Shanock, Linda R. (2007); *Professor, Department of Psychological Science;* B.S., Virginia Polytechnic Institute and State University; M.A., Kean University; Ph.D., University of Delaware

Sharer, Deborah (2001); *Associate Professor, Department of Engineering Technology and Construction Management;* B.S., University of North Carolina at Charlotte; M.S., University of North Carolina at Charlotte; Ph.D., University of North Carolina at Charlotte

Sharma, Aditi (2007); *Lecturer, 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); *Assistant Professor, Department of Public Health Sciences;* 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); *Assistant 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, School of Architecture;* B.S., University of Virginia; M.A., University of Virginia

Shin, Min C. (2001); *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

Shirley, Terry R. (2006); *Lecturer, Department of Geography and Earth 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

Shore, Rebecca M. (2008); *Associate Professor, Department of Educational Leadership;* B.Med., University of Southern California; M.A., California State University; Ed.D., University of South Carolina

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); *Assistant 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

Siler, Elizabeth M. (2013); *Associate Dean for Collection Services, and Assistant Professor, J. Murrey Atkins Library;* B.A., Elon University; M.S.L.S., University of Kentucky

Silver, Reginald (2014); *Clinical Assistant Professor, Department of Business Information Systems and Operations Management;* 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

Sinclair, Celia B. (1999); *Lecturer, Department of Religious Studies;* B.A., Duke University; M.A., Yale 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 Systems Engineering and Engineering Management;* B.S., Istanbul Technical University, Turkey; M.S., Istanbul Technical University, Turkey; Ph.D., Old Dominion University

Skillen, Joseph (2020); *Chair and Professor, Department of Music;* B.S., Tennessee Tech University; M.M., Pennsylvania State University; D.M.A., Michigan State University

Smail, John (1988); *Interim Dean, College of Liberal Arts & Sciences; Professor, Department of History*; B.A., University of Wisconsin at Madison; M.A., Stanford University; Ph.D., Stanford University

Smelser, Ronald E. (2003); *Senior Associate Dean, 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, 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, Courtney S. (2014); *Teaching Assistant Professor, Department of Electrical and Computer Engineering;* B.S., Norfolk State University; M.S., Norfolk State University

Smith, Dale L. (2016); *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, Elizabeth (2020); *Visiting Assistant Professor, Department of Engineering Technology and Construction Management;* B.S., North Carolina State University; M.S., Pennsylvania State University; Ph.D., North Carolina State University

Smith, Heather A. (1999); *Professor, Department of Geography and Earth Sciences;* B.A., University of North Carolina at Chapel Hill; M.A., Queens University, Canada; Ph.D., University of British Columbia, Canada

Smith, JaneDiane (1999); *Associate Professor, Department of Special Education and Child Development;* B.S., Pennsylvania State University; M.Ed., University of Pittsburgh; Ph.D., Vanderbilt University

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, Kathryn L. (2018); *Assistant Professor, 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; Ph.D., University of North Carolina at Charlotte

Smith, Kevin Scott (1997); *Professor, Department of Mechanical Engineering and Engineering Science;* B.S.M.E., Tennessee Tech University; M.S., University of Florida; Ph.D., University of Florida

Smith, Michael S. (2019); *Assistant 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, 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); *Associate 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, 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

Sonin, Isaac M. (1991); *Professor, Department of Mathematics and Statistics;* M.S., Moscow State University, Russia; Ph.D., Moscow State University, Russia

Sorrell, Melanie (2013); *Assistant Professor and Science Librarian, J. Murrey Atkins Library;* B.S., Texas A&M University; M.S., University of North Carolina at Chapel Hill; M.S., Louisiana State University; D.V.M., Texas A&M University

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

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

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); *Lecturer, Department of Communication Studies;* B.A., University of North Carolina at Charlotte; M.A., University of North Carolina at Charlotte

Stanley, Laura J. (2015); *Associate 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

Stare, Bryan G. (2019); *Assistant Professor, Department of Counseling;* B.A., University of Missouri; M.Ed., University of North Texas; Ph.D., University of North Texas

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); *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

Steck, Todd R. (1991); *Professor, Department of Biological Sciences;* B.S., Allegheny College; M.S., University of Rochester; Ph.D., University of Rochester

Stedman, Allison M. (2007); *Professor, Department of Languages and Culture Studies;* 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

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

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

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); *Professor, Department of Communication Studies;* B.A., Virginia Polytechnic Institute and State University; M.A., Wake Forest University; Ph.D., University of Georgia

Stone, Shaun M. (2013); *Lecturer, Department of Languages and Culture Studies;* B.A., Furman University; M.A., University of North Carolina at Charlotte

Strickland, Jamie (2001); *Lecturer, Department of Geography and Earth Sciences;* B.S., University of North Carolina at Charlotte; M.A., University of North Carolina at Charlotte; Ph.D., University of Georgia

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

Stylianou, Antonis C. (1990); *Associate Dean for Faculty and Research, Belk College of Business; Professor, Department of Business Information Systems and Operations Management*; B.A., Kent State University; M.B.A., Kent State University; Ph.D., Kent State 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); *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, 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

Sullivan, Shannon (2014); *Professor, Department of Philosophy;* B.A., Trinity University; M.A., Vanderbilt University; Ph.D., Vanderbilt University

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

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 Geography and Earth 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); *Associate 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); *Associate Professor, Department of Geography and Earth Sciences;* B.S., East China Normal University, China; M.S., Nanjing University, China; Ph.D., The State University of Iowa

Tankersley, Richard (2016); *Vice Chancellor, Research and Economic Development; Professor, Department of Biological Sciences*; B.A., Wake Forest University; M.S., Florida State University; Ph.D., Wake Forest University

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

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, 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 Professor, 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 Systems Engineering and Engineering Management;* B.E., Chung Yuan University, Taiwan; M.S.I.E., Texas Tech University; Ph.D., Auburn University

Teng, S. Gary (2000); *Professor, Department of Systems Engineering and Engineering Management;* B.E., Chung Yuan University, Taiwan; M.S.I.E., Texas Tech University; Ph.D., Auburn University

Terejanu, Gabriel (2018); *Associate 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, School of Architecture;* B.E., American University of Beirut, Lebanon; M.Arch., University of Houston

Thiede, Barbara A. (2006); *Lecturer, Department of Religious Studies;* B.A., University of Illinois at Urbana-Champaign; M.A., University of Missouri; Ph.D., University of Missouri

Thiede, Ralf (1990); *Professor, Department of English;* M.A., University of Missouri; Ph.D., University of Missouri

Thill, Jean-Claude F. (2006); *Knight Distinguished Professor of Public Policy; and Professor, Department of Geography and Earth Sciences;* B.S., Universite Catholique de Louvain, Belgium; M.S., Universite Catholique de Louvain, Belgium; Ph.D., Universite Catholique de Louvain, Belgium

Thomas, Deborah (2018); *Chair and Professor, Department of Geography and Earth 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, 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); *Associate 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, 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, Department of Public Health Sciences;* 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; 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

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 Dean for Graduate Studies and External Relations, College of Computing and Informatics; Professor, Department of Software and Information Systems*; B.S., Millikin University; Ph.D., University of Illinois at Urbana-Champaign

Tomida, Junya (2018); *Assistant 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, 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

Tranjan, Farid M. (1985); *Professor, Department of Electrical and Computer Engineering;* B.S., Centenary College of Louisiana; M.S., University of Kentucky; Ph.D., University of Kentucky

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

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

Troyer, Jennifer (1999); *Dean, Belk College of Business; Professor, Department of Economics*; B.A., Memphis State University; M.S., Florida State University; Ph.D., Florida State University

Truesdale, Angel D. (2019); *Assistant Professor and Social Sciences and Business Librarian, J. Murrey Atkins Library;* B.A., University of North Carolina at Charlotte; M.L.I.S., San Jose State University

Truman, Andrew (2015); *Associate 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

Tseng, Hui-Kuan (Alice) (1988); *Associate Professor, Department of Economics;* B.A., National Taiwan University, Taiwan; M.A., Southern Illinois University; Ph.D., University of Illinois at Urbana-Champaign

Tudor-Locke, Catrine (2019); *Dean, College of Health and Human Services; Professor, Department of Applied Physiology, Health, and Clinical Sciences*; B.A., University of Lethbridge, Canada; M.Sc., Dalhousie University, Canada; Ph.D., University of Waterloo, Canada

Tuma, Mary (1998); *Associate Professor, Department of Art and Art History;* B.S., University of California, Davis; M.F.A., University of Arizona

Turner, Michael G. (2002); *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

Tzacheva, Angelina A. (2015); *Teaching Associate Professor, 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

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

Vainberg, Boris R. (1992); *Professor, Department of Mathematics and Statistics;* M.Sc., Moscow State University, Russia; D.Sc., Moscow State University, Russia

Van, Lori B. (1986); *Associate Professor, Department of Psychological Science;* B.A., MacMurray College; M.A., Northwestern University; Ph.D., Northwestern University

Vandervelde, Scott (2022); *Chair and Professor, Turner School of Accountancy;* B.A., Hope College; Ph.D., University of Iowa

Vasudev, Vinay (2015); *Clinical Assistant Professor, Department of Business Information Systems and Operations Management;* B.S., Ranchi University; M.S., Louisiana State University and A&M College; Ph.D., Louisiana State University and A&M College

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

Vinson, David S. (2014); *Associate Professor, Department of Geography and Earth 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); *Associate 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); *Assistant 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

Wahler, Elizabeth A. (2021); *Director and Professor, School of Social Work;* B.S., University of Evansville; M.S.W., University of Kentucky; Ph.D., University of Kentucky

Wakeman, Shawnee (2008); *Clinical Assistant Professor, 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

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); *Associate 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

Wallace, Lauren (2018); *Assistant Professor, Department of Public Health Sciences;* B.A., Huntingdon College; M.P.A., University of Alabama at Birmingham; M.P.H., University of Alabama at Birmingham; Ph.D., University of Alabama at Birmingham

Walsh, Alison M. (2016); *Assistant Dean of Student Services, College of Liberal Arts & 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); *Associate 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, Chuang (2004); *Professor, Department of Educational Leadership;* M.A., Xi'an Jiaotong University, China; M.S., Ohio State University; Ph.D., Ohio State University

Wang, Jun (2019); *Research Professor, Department of Bioinformatics and Genomics;* M.S., Chengdu University of Technology, China; Ph.D., Wuhan University, 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); *Associate 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 Geography and Earth 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); *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

Waringer, Laura H. (2019); *Assistant Professor, Department of Theatre;* B.F.A., New York University; M.F.A., University of London, England

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

Warren-Findlow, Janice (2005); *Professor, Department of Public Health Sciences;* B.A., Moravian College; M.B.A., Lehigh University; Ph.D., University of Illinois at Chicago

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); *Associate 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 and Culture Studies;* A.B., Cornell University; M.A., University of Michigan

Wayland, Coral B. (1998); *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); *Associate 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

Weber, Erika (2014); *Lecturer, Department of Civil and Environmental Engineering;* B.S., Brigham Young University; M.S., Brigham Young University; Ph.D., University of Utah

Weeks, Gregory B. (2000); *Associate Dean for Academic Affairs, College of Liberal Arts & 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

Weldon, Thomas P. (1995); *Associate Professor, Department of Electrical and Computer Engineering;* B.S., Pennsylvania State University; M.S., Pennsylvania State University; Ph.D., Pennsylvania State University

Weller, Jennifer W. (2007); *Associate Professor, Department of Bioinformatics and Genomics;* B.S., University of Montana; Ph.D., University of Montana; M.S., Oregon State

Wells, Carrie N. (2014); *Lecturer, Department of Biological Sciences;* B.S., Appalachian State University; M.S., Appalachian State University; Ph.D., Clemson University

Wells, Sarah M. (2016); *Visiting Lecturer, Department of Chemistry;* B.S., Grove City College; Ph.D., University of Pittsburgh

Werbeck, Kai-Uwe (2013); *Associate Professor, Department of Languages and Culture Studies;* 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

Wertz-Orbaugh, Tonya L. (2008); *Lecturer, Department of Writing, Rhetoric, and Digital Studies;* B.A., Queens College; M.A., University of North Carolina at Charlotte

West, Betsy (1998); *Associate Professor, School of Architecture;* B.Arch., North Carolina State University; M.Arch., Yale University

West, Mark I. (1984); *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); *Executive Director, Office of Interdiscliplinary 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-Brown, Charlene D. (2013); *Clinical Assistant Professor, School of Nursing;* B.S., East Carolina UniversityN.; B.S.N., Winston-Salem State University; M.S.N., Indiana State University; D.N.P., Indiana State University

White, Richard A. (2020); *Assistant 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

Whittingham, Colleen E. (2017); *Assistant Professor, Department of Reading and Elementary Education;* B.S., University of Dayton; M.Ed., University of Illinois at Chicago; Ph.D., University of Illinois at Chicago

Wickliff, Gregory A. (1991); *Associate Professor, Department of English;* B.A., Miami University; M.A., Purdue University; Ph.D., Purdue University

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, Tamara L. (2016); *Associate Professor, Department of Dance;* B.F.A., Florida State University; M.F.A., Hollins University

Williams, Wesley B. (2011); *Associate 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 Public Health Sciences;* 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); *Associate 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); *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

Wong, Peter L. (1988); *Associate Professor, School of Architecture;* B.A., University of Washington; M.Arch., University of Pennsylvania

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); *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

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, Tingting (2019); *Assistant Professor, Department of Biological Sciences;* B.S., China Agricultural University, China; Ph.D., China Agricultural University

Xiang, Wei-Ning (1990); *Professor, Department of Geography and Earth Sciences;* B.S., Beijing Normal University, China; M.R.P., University of Massachusetts; Ph.D., University of California, Berkeley

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

Xu, Guanglin (2019); *Assistant Professor, Department of Systems Engineering and Engineering Management;* B.S., Dalian University of Technology, China; M.S., University of Iowa; Ph.D., University of Iowa

Xu, Jun (2018); *Associate Professor, Department of Mechanical Engineering;* M.S., Tsinghua University, China; M.Phil., Columbia University; Ph.D., Tsinghua University, China; Ph.D., Columbia University

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

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); *Assistant 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

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

Yarbrough, David L. (2014); *Lecturer, Department of Engineering Technology and Construction Management;* B.I.E., Georgia Institute of Technology; M.S.E., University of North Carolina at Charlotte

Yavorsky, Jill (2017); *Assistant Professor, Department of Sociology;* B.S.B.A., Ohio State University; M.A., Ohio State University; Ph.D., Ohio State University

Yoder, Elizabeth (2020); *Lecturer and Performing Arts Production Manager, Performing Arts Services;* B.A., Kutztown University of Pennsylvania

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 and Culture Studies;* B.A., Kanda University of International Studies, Japan; M.A., Akita International University, Japan

Yu, Chengou (2021); *Lecturer, Department of Art and Art History;* M.F.A., Alfred University

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

Zadrozny, Wlodek (2013); *Professor, Department of Computer Science;* M.S., University of Warsaw; Ph.D., Polish Academy of Sciences

Zarwell, Meagan C. (2019); *Assistant Professor, Department of Public Health Sciences;* 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 Systems Engineering and Engineering Management;* B.S., University of the Philippines; M.S., Columbia University; M.S., Carnegie Mellon University; Ph.D., University of Pittsburgh

Zhang, Dan (2017); *Assistant Professor, 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 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, Jian X. (1996); *Associate Professor, Department of Biological Sciences;* M.D., Chengdu Sport University, China; M.A., Springfield College; Ph.D., University of South Carolina

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, Tiefu (2016); *Associate 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

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, Jing (2006); *Professor, Department of Business Information Systems and Operations Management;* B.S., Fudan University, China; M.S., University of Texas at Dallas; Ph.D., University of Texas at Dallas

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); *Assistant 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

Zhu, Lei (2020); *Assistant Professor, Department of Systems Engineering and Engineering Management;* B.S., Dalian Ocean University, China; M.S., University of Science and Technology of China, China; Ph.D., University of Arizona

Zillante, Arthur L. (2006); *Chair and Professor, Department of Economics;* B.S., Florida State University; M.S., Florida State University; Ph.D., Florida State University

Zuber, Pilar (2012); *Lecturer, Department of Public Health Sciences;* B.S., Towson University; M.S., University of North Carolina at Charlotte; Ph.D., University of North Carolina at Charlotte

Zuniga, Michelle (2021); *Assistant Professor, Department of Geography and Earth Sciences;* B.A., University of Tampa; MURP, University of Colorado 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.

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, 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

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

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

Bender, John F. (1982); *Professor Emeritus, Department of Geography and Earth Sciences;* 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 Public Health Sciences;* 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

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

Bobbio, Stephen M. (1993); *Professor Emeritus, Department of Electrical and Computer Engineering;* B.S., University of Detroit; Ph.D., College of William & Mary

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

Bradley, Doris Anne (1968); *Associate Professor and Librarian Emerita, Atkins Library;* A.B., Wilson College; B.S.L.S., University of North Carolina at Chapel Hill

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 Liberal Arts & 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 Public Health Sciences;* 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); *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

Cann Jr., Arnold A. (1975); *Professor Emeritus, Department of Psychology;* B.A., Northeastern University; Ph.D., Indiana University

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

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

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

Corwin, Thomas M. (1974); *Professor Emeritus, Department of Physics and Optical Science;* B.S., Tulane University; M.S., Johns Hopkins University; Ph.D., Georgia Institute of Technology

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

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

Diemer, John A. (1988); *Professor Emeritus, Department of Geography and Earth Sciences;* 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

Dillard, Jane Murray (1977); *Professor Emerita, Department of Music;* B.S., East Carolina University; M.A.Ed., East Carolina University

Dorin, Dennis Daniel (1972); *Professor Emeritus, Department of Political Science;* B.A., Arizona State University; M.A., University of Virginia; Ph.D., University of Virginia

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, 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

Foos, Paul W. (1991); *Professor Emeritus, Department of Psychology;* B.A., Bowling Green State University; M.A., Bowling Green State University; Ph.D., Bowling Green 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

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

Furuseth, Owen J. (1977); *Associate Provost Emeritus, Metropolitan Studies and Extended Academic Programs; Professor Emeritus, Department of Geography and Earth Sciences*; B.A., East Carolina University; M.A., East Carolina University; Ph.D., Oregon 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

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

Gleaves, Robert M. (1969); *Associate Professor Emeritus, Department of Languages and Culture Studies;* B.A., David Lipscomb College; M.A., Vanderbilt University; Ph.D., Vanderbilt 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 and Culture Studies;* B.A., University of North Carolina at Chapel Hill; M.A., University of South Carolina; Ph.D., University of South Carolina

Goodnight, Barbara Ann (1967); *Senior Associate Vice Chancellor Emerita, Academic Affairs; Professor Emerita, Department of Sociology*; B.S., Texas Woman's University; M.A., Louisiana State University; Ph.D., Louisiana State University

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

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 and Culture Studies;* 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 Liberal Arts & Sciences; Professor Emerita, Department of English*; B.A., Denison University; M.A., The University of Chicago; Ph.D., The University of Chicago

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

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.,

Harper, Mary Turner (1971); *Associate Professor Emerita, Department of English;* A.B., Livingstone College; M.Ed., University of North Carolina at Greensboro; Ph.D., Union Graduate School

Hartgen, David T. (1989); *Professor Emeritus, Department of Geography;* B.S., Duke University; M.S., Northwestern University; Ph.D., Northwestern University

Harver, Andrew R. (1991); *Professor Emeritus, Department of Public Health Sciences;* 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

Healey, John H. (1973); *Associate Professor Emeritus, Department of Applied Physiology, Health, and Clinical Sciences;* B.S., Northern Illinois University; M.S., Northern Illinois University; Ph.D., University of Utah

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

Hocken, Robert J. (1988); *Distinguished Professor Emeritus, Department of Mechanical Engineering and Engineering Science;* B.A., Oregon State University; M.A., State University of New York at Stony Brook; Ph.D., State University of New York at Stony Brook

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 and Culture Studies;* 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

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

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 Geography and Earth Sciences;* 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 Geography and Earth Sciences;* 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

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

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

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 Public Health Sciences;* 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 Public Health Sciences;* 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

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

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 Geography and Earth Sciences;* 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 Emerita,; 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

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 Geography and Earth Sciences;* 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, 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 and Culture Studies;* 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, 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 and Culture Studies;* B.A., North Texas State University; M.A., North Texas State University; Ph.D., University of Texas at Austin

Miller, Martha L. (1976); *Professor of Spanish Emerita, Department of Languages and Culture Studies;* 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

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

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

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

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

Nicholson, Sally W. (1974); *Professor Emerita, School of Nursing;* B.S.N., University of North Carolina at Chapel Hill; M.N., Emory University; Ph.D., University of Maryland

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 and Culture Studies;* 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, 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

Perez, Theresa R. (1998); *Professor Emerita, Department of Middle, Secondary, and K-12 Education;* B.A., California State University, Fresno; M.A., California State University, Fresno; Ph.D., Stanford University

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 Public Health Sciences;* 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

Pyle, Gerald F. (1980); *Professor Emeritus, Department of Public Health Sciences;* 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

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

Reiter, Harold B. (1972); *Professor, 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

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 and Culture Studies;* 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

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

Saman, Paul Antonius (1963); *Professor Emeritus, Department of Languages and Culture Studies;* Ph.D., Charles University

Sandarg, Robert M. (1984); *Associate Professor Emeritus, Department of Languages and Culture Studies;* 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, 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 Geography and Earth Sciences;* 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

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

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 Public Health Sciences;* 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, Department of Physics and Optical Science;* B.A., Pfeiffer College; Ph.D., Clemson 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

Stephenson, Katherine S. (1986); *Associate Professor Emerita, Department of Languages and Culture Studies;* 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

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 Public Health Sciences;* B.S., University of Pittsburgh; M.B.A., George Washington University; M.P.H., Johns Hopkins University; Ph.D., Johns Hopkins 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 and Culture Studies;* 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

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

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

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, Department of Physics and Optical Science;* B.S., Pennsylvania State University; M.S., West Virginia University; Ph.D., West Virginia University

Vance, Christine W. (1974); *Associate Professor Emerita, Department of Languages and Culture Studies;* 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, 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, Department of Physics and Optical Science;* A.B., King College; M.S., Vanderbilt University; Ph.D., Vanderbilt University

Walcott, Wayne A. (1970); *Senior Associate Provost Emeritus, Academic Affairs; Associate Professor Emeritus, Department of Geography and Earth Sciences*; 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, 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

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

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

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

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

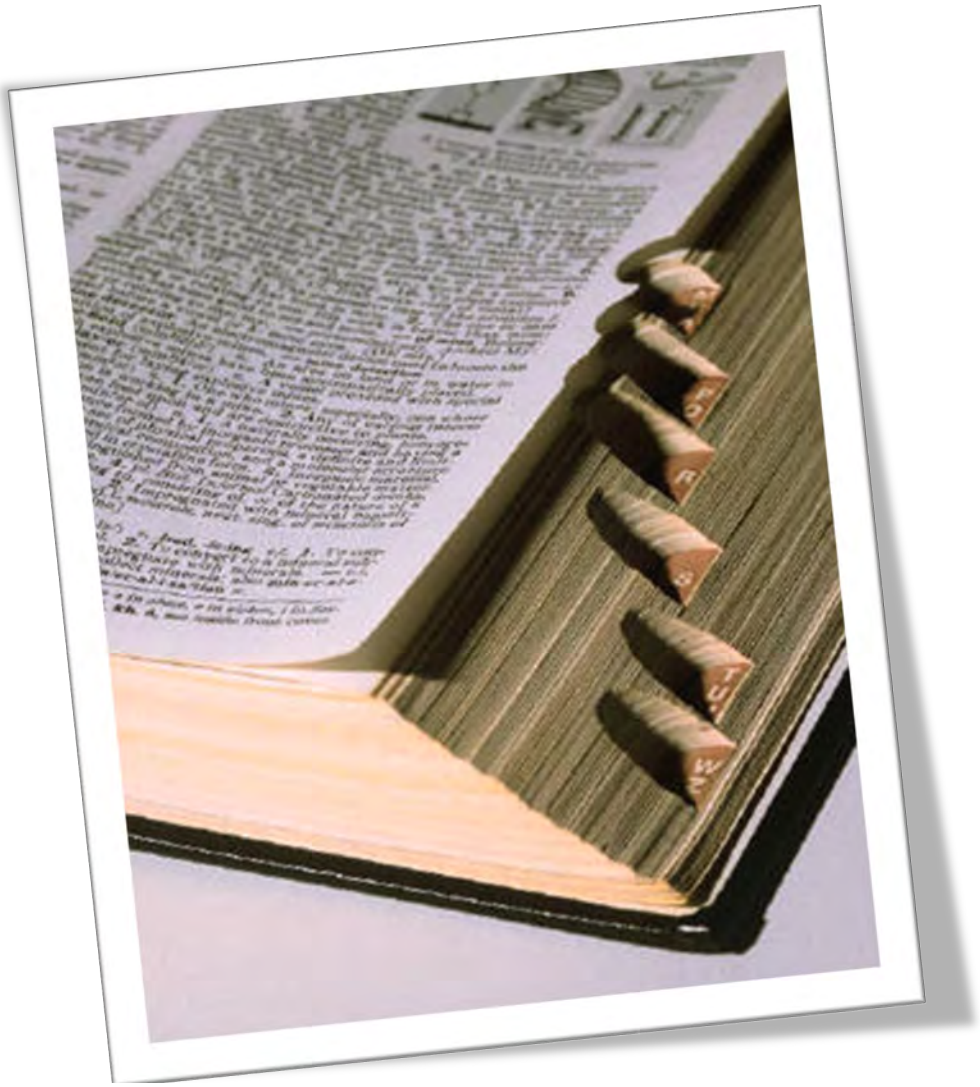
Zhu, You-lan (1990); *Professor Emeritus, Department of Mathematics and Statistics;* Ph.D., Qinghua University, China

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 dismissed 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, 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. Many colleges and universities, including UNC Charlotte, require students to take this test and submit their test scores when they apply for admission. While UNC Charlotte accepts the ACT, the SAT is preferred. Most students take the ACT or the SAT during their junior or senior year of high school.

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 of credit based on AP is granted to a student based on prior study or experience (usually 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.

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.

Auditory learner – Learns through listening; these students learn best through verbal lectures, discussions, talking things through, and listening to what others have to say. Auditory learners interpret the underlying meanings of speech through listening to tone of voice, pitch, speed and other nuances. Written information may have little meaning until it is heard. These learners often benefit from reading text aloud.

-B-

Bachelor's degree or baccalaureate – A postsecondary degree requiring 120 credit hours of specified coursework (except for programs that have applied for and received a waiver to exceed 120 credit hours from the UNC Charlotte Board of Trustees). 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 of credit based on Advanced (A-Level) or Advanced Subsidiary (AS-Level) examinations is granted to a student based on prior study or experience (usually 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.

CFNC – College Foundation of North Carolina. A comprehensive website used for applying to colleges, exploring career opportunities, and applying for state and federal aid.

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.

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 awards degrees to graduating students 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 – A course outside the regular academic instructional program, for which standard academic fees and tuition are (usually) not charged. While most often these courses do not earn academic credits, they can provide necessary education or experience for professional development, or lead to professional certifications.

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 *Day of Convocation*.

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 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 hour – An amount of work represented in intended learning outcomes and verified by evidence of student achievement that is an

institutionally established equivalency that reasonably approximates 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; 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.

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 Liberal Arts & Sciences, 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, and degrees and awards (including scholarships) received. 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.

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/learning – Formal learning which occurs when students and instructor are separated by geographic distance or by time. Access to the instructor is gained through communications technology such as the Internet, interactive videoconferencing, and email.

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.

Experiential learning – Actively engaging students in a work and/or educational experience where they may make their own discoveries and experiment with knowledge themselves, instead of hearing or reading about the experiences of others.

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-

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 (Grade Point Average) – 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, prior to the University Commencement ceremony.

-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.

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 Liberal Arts & Sciences.

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 of credit based on IB is granted to a student based on prior study or experience (usually 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.

-K-

Kinesthetic learner – A student who learns best by actually carrying out a physical activity, rather than listening to a lecture or merely watching a demonstration.

-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.

Learning style – The way a person takes in, understands, expresses and remembers information; the way a person learns best. *See auditory, kinesthetic, and visual learner.*

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.

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.

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.

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 Convocation - 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 course – A class that typically meets less frequently than a credit course and that contributes toward personal or occupational development.

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 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.

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.

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 development courses – Courses offered to improve knowledge and skills in specific professional areas, such as professional certification programs. 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 who oversees all academic affairs activities, including research and faculty. 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 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. Many colleges and universities, including UNC Charlotte, require students to take this test and submit their test scores when they apply for admission. UNC Charlotte also accepts the ACT, but the SAT is preferred. Most students take the SAT or the ACT during their junior or senior year of high school.

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 of approximately 16 weeks, usually a third of the academic year (i.e., Fall, Spring, and Summer semesters). The Fall semester begins in August, the Spring semester in January, and the Summer semester in May at UNC Charlotte. The Summer semester generally includes one eleven-week and two five-week half terms.

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 – Student **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.

Student Convocation – See *Day of Convocation*.

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 – A course outline typically provided on the first day of class by the instructor that describes course requirements, topics to be covered, required reading, grading criteria, faculty expectations, deadlines, exam dates, class attendance requirements, and other relevant course information.

-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.

Termination (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 terminated.

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.

Visual learner – Learns through seeing; these students prefer to see the instructor's body language and facial expression to fully understand the content of a lesson. They tend to prefer sitting at the front of the classroom to avoid visual obstructions (e.g., people's heads). They may think in pictures and learn best from visual displays including – diagrams, illustrated text books, overhead transparencies, videos, flipcharts, and hand-outs. During a lecture or classroom discussion, visual learners often prefer to take detailed notes to absorb the information.

-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 77, 747
49er Card 75, 76, 746, 825
49ers 40, 737, 744, 825

-A-

Academic Advising 48, 55, 825
Academic Affairs, Division of 21
Academic Appeals and Grievances 68
Academic Buildings 22
Academic Calendar 6, 825
Academic Distinctions 66
Academic Diversity and Inclusion, Office of 739
Academic Integrity, Code of Student 50
Academic Policies, Degree Requirements & 54
Academic Probation 66
Academic Proficiency and Placement 46
Academic Records and Transcripts 70
Academic Standing 66
  Advanced Academic Standing 68
  Warning 66
Academic Suspension 66
Accelerated Master's Programs 61
Accountancy, Turner School of 139
Accounting
  Major(s) 139
  Honors 137
  Course Descriptions 507
  Early Entry – Graduate Program(s) 140
Accreditations 16
Actuarial Mathematics
  Major(s) 447, 450
  Minor(s) 454
  Certificate(s) 455
  Honors 455
Adding/Dropping a Course *(see Registration)*
Admissions 42
  Application 44
  Deadlines 43
  Health Requirements 46
  Requirements 44
    For Adult Students 497, 744
    For Former Students 67
    For Freshmen 44
    For International Applicants 44
    For Non-Degree Students 45
    For Pre-Collegiate Enrichment Program (PEP) 45
    For Second Degree or Major 45
    For Transfer Students 45
    For Visiting Students 45
    For Undergraduate Certificates 46
Adult Students and Evening Services 497, 744
Advising, Academic 55
  for Pre-Health/Pre-Med 501
Advising Center, University 740
Advising Systems 737
Aerospace Studies *(see ROTC)*
Africana Studies, Department of 326
  Major(s) 326
  Minor(s) 328
  Honors 328
  Early Entry – Graduate Program(s) 321
  Course Descriptions 509
Air Force *(see ROTC)*
Alcohol Abuse 51
Alma Mater 40, 825
Alumni Affairs 762
American Studies 407
  Minor(s) 407
  Course Descriptions 513
Anthropology, Department of 330
  Major(s) 330
  Minor(s) 333
  Honors 334
  Early Entry – Graduate Program(s) 335
  Course Descriptions 513
Apartments *(see Housing)*
Application
  Dates 43
  Fee 44
  Process, Admissions 43
  Process, Financial Aid 78
  For Degree 70
Applied Physiology, Health, and Clinical Sciences, Dept of 300
Arabic
  Minor(s) 442
  Honors 444
  Course Descriptions 518
Architecture
  Major(s) 87
  Minor(s) 89
  Honors 85
  Early Entry – Graduate Program(s) 92
  Course Descriptions 518
Architecture, School of 87
Army ROTC *(see ROTC)*
Art and Art History, Department of 93
Art
  Major(s) 93
  Minor(s) 109
  Honors 85
  Course Descriptions 509
Art History
  Major(s) 94
  Minor(s) 109
  Honors 85, 109
  Course Descriptions 512
Arts + Architecture, College of 83
  Honors 85
  Honors Course Descriptions (AAHP) 507
  Interdisciplinary Course Descriptions (COAA) 551
Arts and Sciences *(see Liberal Arts & Sciences)*
Athletics 744
Athletic Academic Center 737
Attendance and Participation, Course 63
Auditing Courses 60

Auxiliary Services 746

-B-

Baccalaureate Degree Programs 16
Progression 55
Requirements 56
Second Baccalaureate 59, 67
Bike Rentals 748
Bioinformatics
Major(s) 168
Minor(s) 171
Honors 167
Early Entry – Graduate Program(s) 171
Course Descriptions 528
Bioinformatics and Genomics, Department of 166
Biological Sciences, Department of 336
Biology
Major(s) 336
Minor(s) 339
Honors 341
Early Entry - Graduate Program(s) 341
Course Descriptions 530
Biotechnology 340
Minor(s) 340
Board of Governors 19
Board of Trustees 19
Bookstore 747
Botanical Gardens 751
Buildings, Campus Academic 22
Bus Transportation 748
Business, Belk College of 134
Honors 137
General Course Descriptions (BUSN) 535
Business Affairs, Division of 21
Business Analytics
Major(s) 141
Honors 136
Course Descriptions 535
Business Information Systems/Operations Management, Dept .. 141
Business Law
Course Descriptions 534

-C-

Cafeterias *(see Dining on Campus)*
Calendar, Academic 6
Campus
Main 22
Center City 22
Campus Buildings, Academic 22
Campus Activities Board 758
Campus Life and Student Resources 743
Campus Map 847
Capitalism Studies
Minor(s) 410
Course Descriptions 536
Car Sharing 748
Career Center, University 740
Catalog Policies and Disclaimers 8
Center City Campus 22
Certificate Programs
Admission to 46
Programs Offered 12
Chancellor 2, 19, 765
Chancellor's List 66, 827
Change of Degree or Major 59
Charlotte 49ers 40, 744
Cheating 50
Check Policy *(see Returned Check Policy)*
Chemistry
Major(s) 342
Minor(s) 348
Honors 348
Early Entry – Graduate Program(s) 349
Course Descriptions 541
Chemistry, Department of 342
Child and Family Development
Major(s) 207
Minor(s) 214
Course Descriptions 544
Children's Literature and Childhood Studies
Minor(s) 371
Chinese
Minor(s) 442
Honors 444
Course Descriptions 545
Civil and Environmental Engineering, Department of 220
Civil Engineering
Major(s) 220
Early Entry – Graduate Program(s) 229
Course Descriptions 536
Civil Engineering Technology *(see Engineering Technology)*
Classical Studies
Minor(s) 442
Honors 444
Clubs, Student *(see Student Organizations)*
Code of Student Academic Integrity 50
Code of Student Responsibility 51
Cognitive Science
Minor(s) 474
College Level Examination Program (CLEP) 68
Commencement (*see Graduation*)
Common Reading Experience 739
Communication Across the Curriculum 738
Communication Studies
Major(s) 350
Minor(s) 358
Honors 357
Certificate(s) 358
Early Entry – Graduate Program(s) 359
Course Descriptions 551, 637
Communication Studies, Department of 350
Community Relations 762
Computer Engineering
Major(s) 231
Minor(s) 236
Early Entry – Graduate Program(s) 237

Course Descriptions 559
Computer Science
Major(s) 172, 178
Minor(s) 176
Certificate(s) 177
Early Entry – Graduate Program(s) 178
Course Descriptions 625
Computer Science, Department of 172
Computing and Informatics, College of 165
Major(s) 166
Minor(s) 171
Honors 167
Early Entry – Graduate Program(s) 171
Certificate(s) 171
Course Descriptions (ITSC) 633
Cone University Center 758
Construction Management 245
Major(s) 247
Early Entry – Graduate Program(s) 252
Course Descriptions 550
Continuing Education 498, 744
Convocation
New Student Convocation 6, 48
Cooperative Education 740
Copy Center 747
Corequisites 506
Counseling and Psychological Services (CAPS) 752
Course Attendance and Participation 63
Course Descriptions 503
Course Load 55, 828
Course Numbering System 506
Course Prefix 504
Creative Writing *(see English)*
Credit by Examination 69
Fee 77
Credit for Military Training *(see Transfer Students)*
Credit from Two-Year Institutions *(see Transfer Students)*
Credit Hours 55, 66
Criminal Justice
Major(s) 360
Minor(s) 364
Honors 363
Early Entry – Graduate Program(s) 364
Course Descriptions 546
Criminal Justice and Criminology, Department of 360
Cross-listed Courses 506
Cum Laude *(see Graduation with Distinction)*
Cybersecurity
Major(s) 179
Early Entry – Graduate Program(s) 186

-D-

Dance
Major(s) 110
Minor(s) 114
Certificate(s) 114
Course Descriptions 554
Dance, Department of 110
Data Science
Major(s) 493
Early Entry – Graduate Program(s) 494
Course Descriptions 558
Data Science, School of 492
Day of Convocation *(see Convocation)*
Dean of Students Office 749
Dean's List 67, 828
Declaring Majors and Minors 59
Definitions *(see Glossary)*
Degree
Application for 70
Change of 59
New This Year 9
Programs Offered 11
Progression 55
Requirements 54
Second 59
Dining on Campus 747
Cost/Meal Plans 76
Directory 764
Faculty 764
Emeritus Faculty 810
Disabilities
Campus Transportation 748
Education for Vocationally Disabled 80
Accessible Housing 754
Disability Services 738
Disclaimers and Policies, Catalog 8
Distance Education 47, 498
Diverse Literatures and Cultural Studies
Minor(s) 372
Diversity and Inclusion, Office of Academic 739
Dormitories *(see Housing)*
Dropping a Course *(see Withdrawal)*
Dual Undergraduate and Graduate Registration 61
Drugs, Illegal 51

-E-

Early Entry to Graduate Programs 12, 61
Earth Sciences, Department of Geography and 376
Earth and Environmental Sciences 376
Major(s) 376
Minor(s) 381
Honors 391
Early Entry – Graduate Program(s) 382
Course Descriptions 579
Economics
Major(s) 147
Minor(s) 149
Honors 137
Early Entry – Graduate Program(s) 149
Course Descriptions 565
Economics, Department of 147
Education Abroad, Office of 755
Education, Cato College of 188
Teacher Education Policies and Procedures 191
Honors 190

General Course Descriptions (EDUC) 567
Education - Learning, Design, and Technology
Early Entry – Graduate Program(s) 195
Course Descriptions 568
Educational Leadership 195
Early Entry – Graduate Program(s) 195
Educational Research, Measurement, and Evaluation
Course Descriptions 702
Electrical and Computer Engineering, Department of 231
Electrical Engineering
Major(s) 231
Minor(s) 244
Early Entry – Graduate Program(s) 244
Course Descriptions 559
Electrical Engineering Technology *(see Engineering Technology)*
Elementary Education
Major(s) 203
Early Entry – Graduate Program(s) 206
Course Descriptions 569
Emergency Numbers ..... inside cover
Emeritus Faculty 810
Employment, Student *(see University Career Center)*
Energy and Electromechanical Systems
Early Entry - Graduate Program(s) 277
Course Descriptions 571
Energy Engineering *(see Mechanical Engineering)*
Energy Infrastructure *(see Civil and Environmental Engineering)*
Engineering, Wm States Lee College of 215
Honors 217
General Course Descriptions (ENGR) 578
Engineering Management
Early Entry – Graduate Program(s) 296
Engineering Technology
Major(s) 245
Civil Engineering Technology 253
Course Descriptions 581
Electrical Engineering Technology 258
Course Descriptions 569, 583
Engineering Technology
Course Descriptions (ETGR) 587
Fire and Safety Engineering Technology 265
Early Entry – Graduate Program(s) 270
Course Descriptions 585
Industrial Engineering Technology
Course Descriptions 589
Manufacturing Engineering Technology
Course Descriptions 591
Mechanical Engineering Technology 271
Course Descriptions 589
Engineering Technology and Construction Management, Dept ... 245
English
Major(s) 365
Minor(s) 371
Honors 374
Early Entry – Graduate Program(s) 375
Course Descriptions 572
English, Department of 365
English as a Second Language, Teaching
Minor(s) 200
Course Descriptions 721
Enrollment Management 21
Entrepreneurship
Certificate(s) 161
Course Descriptions 591
Environmental Facilities and Services 751
Environmental Studies
Major(s) 382
Examinations
Cambridge 68
CLEP 68
Credit by Examination 69
GMAT 46, 388, 446
GRE 46
LSAT 46, 502
SAT 46
Exchange Program, Student *(see Education Abroad)*
Exercise Science
Major(s) 300
Honors 305
Course Descriptions 592
Experiential Learning Programs 740
Extended Academic Programs xx

-F-

Faculty 764
Family Educational Rights and Privacy Act (FERPA) 70
Family Services *(see New Student and Family Services)*
Farsi
Course Descriptions 595
Fees 75
Fight Song, 49ers 40
Film Studies 410
Minor(s) 410
Certificate(s) 410
Course Descriptions 595
Final Grades 65
Finance
Major(s) 151
Honors 137
Early Entry – Graduate Program(s) 155
Course Descriptions 534, 596
Finance, Department of 151
Financial Aid 78
Financial Information 75
Fire & Safety Engineering Technology *(see Engineering Technology)*
First-Year Experience 738
Fixed Tuition Program 75
Food Courts *(see Dining on Campus)*
Foreign Languages *(see Languages and Culture Studies)*
Foreign Language Education
Minor(s) 198
Early Entry – Graduate Program(s) 201
Course Descriptions 598
Forgiveness Policy 67
Francophone Studies
Minor(s) 428
Honors 444
Course Descriptions 598

Fraternity and Sorority Life 760
French
Major(s) 428
Minor(s) 428
Certificate(s) 429
Honors 444
Course Descriptions 598

-G-

Gardens *(see Botanical Gardens)*
General Education Program 56
Exemptions from 69
Course Descriptions (LBST, UCOL) 640, 728
Geography 376
Major(s) 376
Minor(s) 381
Honors 391
Early Entry – Graduate Program(s) 388
Course Descriptions 600
Geography and Earth Sciences, Department of 376
Geology 388
Major(s) 388
Minor(s) 389
Honors 391
Course Descriptions 604
German
Major(s) 430
Minor(s) 431
Certificate(s) 431
Honors 444
Course Descriptions 606
Gerontology 412
Minor(s) 412
Early Entry – Graduate Program(s) 412
Course Descriptions 607
Global Education, Applied Understandings in
Minor(s) 205
Global Studies, Department of 393
Glossary 823
GMAT Exam *(see Examinations)*
Gold Rush 750
Government, Student *(see Student Government Association)*
Grade Changes/Final Grade Appeals 65
Grade Point Average (GPA) 56, 66
Calculator 66
Grade Replacement 65, 136
Grade Reports, Unsatisfactory 65
Grades 64
Grading Policies 64
Graduate Programs
Early Entry 61
Accelerated Master's Programs 61
Dual Undergraduate/Graduate Registration 61
Graduation 70
Application for Degree 70
Commencement Marshals 70
With Distinction 67
Graduation Rate Disclosure Statement 21
Grants, Student *(see Financial Aid)*
Graphic Design
Major(s) 107
Honors 85
Course Descriptions 523
GRE Exam *(see Examinations)*
Greater Charlotte Consortium 62
Greek
Course Descriptions 607, 650
Greek Life *(see Fraternity and Sorority Life)*
Greek Village *(see Housing)*

-H-

Handicapped Services *(see Disability Services)*
Health Administration
Early Entry – Graduate Program(s) 317
Health and Human Services, College of 298
Course Descriptions (HAHS) 609
Health & Medical Humanities
Minor(s) 414
Course Descriptions 609
Health Center, Student 752
Health Informatics
Early Entry – Graduate Program(s) 494
Health Insurance, Student 46, 752
Health Requirements 46
Health Systems Management
Major(s) 313
Honors 314
Course Descriptions 619
History
Major(s) 402
Minor(s) 405
Honors 404
Early Entry – Graduate Program(s) 405
Course Descriptions 610
History, Department of 402
History of University of North Carolina 19
History of UNC Charlotte 20
Holocaust, Genocide, and Human Rights Studies
Major(s) 393
Minor(s) 400
Course Descriptions 609
Honor Societies *(see Student Organizations)*
Honors, Academic 66, 723
Honors College 499
Department and College Honors Programs 501
University Honors Program 500
Course Descriptions 618
Housing and Residence Life 753
Fees 77
Human-Centered Design
Minor(s) 185
Humanities, Technology, and Science
Minor(s) 415
Course Descriptions 620

-I-

I.D. Card *(see 49er Card)*
I.D. Office 746
Identity, Equity, and Engagement 749
Illegal Drugs, Use Prevention, Policy 51
Immunization Requirements 47, 752
Incomplete, Grade of (I) *(see Grades)*
Industrial Engineering Technology *(see Engineering Technology)*
Infirmary *(see Student Health Center)*
Information Technology *(see Computer Science)*
  Early Entry – Graduate Program(s) 178
Information Technology Services *(see OneIT)*
Institutional Integrity, Division of 21
Inter-Institutional Registration 62
Interactive Programming
  Minor(s) 185
Interdisciplinary Studies 407
  Major(s) 407
  Course Descriptions 621
Interdisciplinary Studies, Office of 407
International Admissions 43
  Application 43
International Baccalaureate (IB) Program 68
International Business/Management
  Major(s) 159
  Minor(s) 161
  Honors 137
  Course Descriptions 620
International Programs 734
International Public Relations
  Certificate(s) 358
International Student and Scholar Office 735
International Student Exchange Program *(see Education Abroad)*
International Student Orientation 48
International Studies
  Major(s) 394
  Minor(s) 401
  Honors 399
  Course Descriptions 622
Italian
  Minor(s) 443
  Honors 444
  Course Descriptions 633

-J-

Japanese
  Major(s) 432
  Minor(s) 433
  Certificate(s) 434
  Honors 444
  Course Descriptions 635
Jazz Studies
  Major(s) 119
  Certificate(s) 126
Journalism
  Minor(s) 358
  Course Descriptions 621

-K-

Kinesiology *(see Applied Physiology, Health, and Clinical Sciences)* 638

-L-

Language Proficiency Procedures 46
Languages and Culture Studies, Department of 427
  General Course Descriptions (LACS) 638
  Honors Program 444
Latin
  Course Descriptions 639
Latin American Studies 419
    Major(s) 419
    Minor(s) 421
    Honors 421
    Early Entry – Graduate Program(s) 422
    Course Descriptions 642
Law *(see Pre-Law)*
Law Enforcement *(see Criminal Justice)*
Leadership and Community Engagement 759
Leadership, Innovation, Technology, and Diversity (LEADS)
  Certificate (s) 445
  Course Descriptions (CLAS) 549
Leadership Studies
  Certificate(s) 359, 759
Learning, Design, & Technology *(see Education - Learning, Design...)*
Learning Communities 739
Legal Studies 423
  Minor(s) 423
  Course Descriptions 640
LGBTQ+ Programs and Services 749
Liberal Arts & Sciences, College of 322
  General Course Descriptions (CLAS) 549
Liberal Studies
  Course Descriptions 640
Library 23, 756
Light Rail 748
Linguistics
  Minor(s) 373
Literature *(see English)*
Loans *(see Financial Aid)*
Logo, University 40
LSAT Exam *(see Examinations)*

-M-

Magna Cum Laude *(see Graduation with Distinction)*
Mail & Package Services 747
Majors
  Change of 59
  Declaration of 59
  Meta Majors xx

Programs Offered 11
Second 59
Management
Major(s) 157
Minor(s) 159
Honors 137
Course Descriptions 659
Management, Department of 157
Management Information Systems
Major(s) 140
Minor(s) 144
Honors 136
Course Descriptions 621
Manufacturing Engineering Technology *(see Engineering Technology)*
Map, Campus 847
Marketing
Major(s) 162
Honors 137
Course Descriptions 660
Marketing, Department of 162
Mascot, University 41
Mathematics
Major(s) 446
Minor(s) 454
Certificate(s) 455
Honors 455
Early Entry – Graduate Program(s) 456
Course Descriptions 646
Mathematics and Statistics, Department of 446
Mathematics Education
Course Descriptions 645
Mathematics for Business
Major(s) 452
Mathematics Placement Procedures 46
Meal Plans *(see Dining on Campus)*
Mechanical Engineering
Major(s) 279
Early Entry – Graduate Program(s) 290
Course Descriptions 651
Mechanical Engineering and Engineering Science, Dept of 279
Mechanical Engineering Technology *(see Engineering Technology)*
Medical Care *(see Student Health Center)*
Medicine *(see Pre-Health Professions & Pre-Med School Advising)*
Meta Majors xx
Meteorology 390
Major(s) 390
Honors 391
Course Descriptions 658
Middle Grades Education
Major(s) 196
Course Descriptions 650
Middle, Secondary, and K-12 Education, Department of 196
Course Descriptions 650
Military Science *(see ROTC)*
Military Training Credit *(see Transfer Credit)*
Minors
Declaration of 59
Programs Offered 11
Mission, Vision, and Values, University 20
Modern Greek *(see Greek)*
Motorsports *(see Mechanical Engineering)*
Music
Major(s) 116
Minor(s) 125
Certificate(s) 126
Course Descriptions 663, 664, 672
Music, Department of 116
Musical Theatre 126
Certificate(s) 126

-N-

Neurodiagnostics and Sleep Science
Major(s) 303
Honors 305
Course Descriptions 676
New Degree Programs this Year 9
New Student and Family Services 750
New Student Convocation 6, 48
New Student Orientation *(see Student Orientation & Registration)*
Newspaper, Student 759
Niner Media 759
Niner Nation Family 750
Niner Times 759
Noble Niner Code 53
Nondiscrimination 21
Nontraditional Academic Programs 744
Norm *(see Mascot)*
Nursing
Major(s) 309
Honors 311
Early Entry – Graduate Program(s) 312
Course Descriptions 676, 677
Nursing, School of 309

-O-

OneIT 761
Online Courses *(see Distance Education)*
Operations and Supply Chain Management
Major(s) 144
Minor(s) 146
Honors 137
Course Descriptions 679
Operations Research
Course Descriptions 680
Optical Science *(see Physics and Optical Science)*
Orientation, Student 48, 750
Organizations, Student 758
Outdoor Adventure Leadership
Minor(s) 305

-P-

Parent Information/Authorized Payer 70, 81
Parking and Transportation Services 77, 747
Fees and Violations 78

Pass/No Credit Option (Grades) 64
PassioGo! 748
Payment 81
Performing Arts 757
Philosophy, Department of 457
Major(s) 457
Minor(s) 458
Honors 459
Early Entry – Graduate Program(s) 459
Course Descriptions 680
Physician *(see Student Health Center)*
Physics
Major(s) 460
Minor(s) 463
Honors 463
Early Entry – Graduate Program(s) 463
Course Descriptions 684
Physics and Optical Science, Department of 460
Plagiarism 50, 832
Police and Public Safety 757
Policies *(see Academic Policies)*
Political Science
Major(s) 465
Minor(s) 468
Honors 469
Early Entry – Graduate Program(s) 470
Course Descriptions 686
Political Science and Public Administration, Department 465
Portuguese
Course Descriptions 690
Post Office *(see Mail and Package Services)*
Power Systems and Power Electronics *(see Electrical and Computer Engineering)*
Pre-Collegiate Enrichment Program (PEP) 45
Pre-Health Professions and Pre-Medical School Advising 501
Pre-Law Advising 502
Pre-Med *(see Pre-Health Professions...)*
Prerequisites 60, 506
Privacy of Student Educational Records *(see also FERPA)* 70
Probation, Academic 66
Professional Schools, Preparation for 501
Professional Studies, School of 496
Major(s) 497
Course Descriptions 690
Programs and Degrees Offered 16
Prospect for Success 738
Provost 3, 765
Psychological Science, Department of 471
Psychology
Major(s) 471
Minor(s) 473
Honors 473
Early Entry – Graduate Program(s) 475
Course Descriptions 691
Public Health
Major(s) 313
Minor(s) 316
Honors 314
Early Entry – Graduate Program(s) 317
Course Descriptions 616
Public Health Sciences, Department of 313
Public Relations, International
Certificate(s) 358
Public Speaking *(see Communication Studies)*
Public Transportation 748

-Q-

Quality Points 66

-R-

Reader's Guide to the Catalog 8
Reading and Elementary Education, Department of 203
Reading Education
Major(s) 203
Minor(s) 205
Early Entry – Graduate Program(s) 206
Course Descriptions 695
Readmission of Former Students 67
Real Estate *(see Finance)*
Records, Privacy of 70
Records and Transcripts 70
Recreational Facilities 745
Recreation, University 745
Recycling 751
Refunds 82
Registration 60
Religious Studies
Major(s) 476
Minor(s) 478
Honors 478
Early Entry – Graduate Program(s) 479
Course Descriptions 696
Religious Studies, Department of 476
Repeating Courses 65
Residence Requirement, Baccalaureate Degree 56
Residence Status for Tuition Purposes 75
Respiratory Therapy
Major(s) 304
Honors 305
Early Entry – Graduate Program(s) 308
Course Descriptions 701
Responsibility, Student 9, 51
Returned Check Policy 81
Reverse Transfer 70
Risk Management and Insurance *(see Finance)*
Room and Board *(see Housing)*
ROTC
Air Force / Aerospace Studies 480
Minor(s) 480
Course Descriptions 508
Army / Military Science 481
Minor(s) 481
Course Descriptions 662
Russian
Minor(s) 434
Certificate(s) 435

Honors 444
Course Descriptions 702

-S-

Scholarships 80
Second Baccalaureate
Admission to 45, 59, 67
Degree 59
Major/Minor 59, 67
Secondary Education
Minor(s) 198
Course Descriptions 703
Security and Intelligence Studies
Minor(s) 468
Smoking and Use of Tobacco Products Policy 52
Social Work
Major(s) 319
Honors 320
Course Descriptions 712
Social Work, School of 319
Sociology
Major(s) 482
Minor(s) 487
Honors 487
Early Entry – Graduate Program(s) 488
Course Descriptions 706
Sociology, Department of 482
Software and Information Systems, Department of 179
Major(s) 179
Minor(s) 185
Honors 167
Early Entry – Graduate Program(s) 186
Course Descriptions 630
Software Development *(see also Software & Information Systems)*
Minor(s) 185
Sororities *(see Fraternity and Sorority Life)*
Southern Studies 424
Minor(s) 424
Course Descriptions 712
Spanish
Major(s) 436
Minor(s) 440
Certificate(s) 440
Honors 444
Early Entry – Graduate Program(s) 441
Course Descriptions 714
Special Education
Major(s) 207
Minor(s) 214
Early Entry – Graduate Program(s) 214
Course Descriptions 544, 717, 719
Special Education and Child Development, Department 207
Sports 744
Sports Analytics
Certificate(s) 307
Statistics
Major(s) 448, 451
Minor(s) 454
Course Descriptions 719
Student Academic Integrity, Code of 50
Student Accountability and Conflict Resolution 750
Student Activity Center (SAC) 745
Student Affairs, Division of 21
Student Assistance and Support Services (SASS) 750
Student Classification 56
Student Conduct 50
Student Convocation *(see Convocation)*
Student Engagement 758
Student Exchange Program *(see Education Abroad)*
Student Government Association (SGA) 761
Student Health Center 752
Student Housing *(see Housing)*
Student ID *(see 49er Card)*
Student Involvement 761
Student Life 744
Student Marshals *(see Graduation)*
Student Niner Media 759
Student Organizations 758
Student Orientation, Advising and Registration (SOAR) 48, 750
Student Responsibility 9, 51
Student Union 758
Study Abroad *(see Education Abroad)*
Suites *(see Housing)*
Summa Cum Laude *(see Graduation with Distinction)*
Summer School 82
Suspension
Academic 66
Readmission After 67
Appeal Procedures 68
Swahili
Course Descriptions 72
Systems Engineering
Major(s) 291
Course Descriptions 704
Systems Engineering and Engineering Management, Dept of 291

-T-

Teacher Education Advising and Licensure (TEAL) 70, 191, 192
Teacher Licensure (Graduation) 70, 191
Teaching English as a Second Language
Minor(s) 200
Course Descriptions 721
Technical/Professional Writing
Minor(s) 373
Technology 761
Termination of Enrollment 62
Theaters 757
Theatre
Major(s) 126
Minor(s) 133
Course Descriptions 721
Theatre, Department of 127
Transcripts 70
Transfer Center, University 742
Transfer Credit 68

Transfer Students
Admission of ... 44
Application for ... 44
Transient Study ... 68
Translating and Translation Studies
Certificate(s) ... 430, 432, 434, 435, 436, 440
Early Entry – Graduate Program(s) ... 441, 443
Course Descriptions ... 727
Transportation ... 747
Travel Abroad *(see Education Abroad)*
Tuition and Fees ... 75
Payment ... 81
Refunds ... 82
Tutorial Services ... 741

-U-

UNC System ... 19
Undergraduate Degrees ... 12
Undergraduate Education, Office of ... 756
Undergraduate Research, Office of ... 739
University, About the ... 18
University Advancement, Division of ... 21, 762
University Advising Center ... 740
University Career Center ... 740
University Center for Academic Excellence ... 741
University College ... 742
Course Descriptions ... 728
University Communications ... 762
University Honors *(see Honors College)*
University Logo ... 40
University Mascot ... 41
University Mission, Vision, and Values ... 19
University of North Carolina System ... 18
University Recreation ... 729
University Regulation of Student Conduct ... 49
University Seal ... 40
University Structure ... 21
University Transfer Center ... 742
University Mission, Vision, and Values ... 20
Unsatisfactory Grade Reports ... 64
Uptown Campus *(see Center City)*
Urban Studies
Minor(s) ... 391
Course Descriptions ... 729
Urban Youth and Communities
Minor(s) ... 200
Course Descriptions ... 554

-V-

Venture Outdoor Leadership ... 7, 305, 359, 760
Veteran Benefits ... 80
Veteran Services ... 750
Vision and Values, University ... 20
Visiting Students, Admission of ... 45
Vocationally Disabled, Education for *(see Disabilities)*

-W-

Warning, Good Academic Standing ... 66
Weapons, Regulations Concerning ... 51
Wellness Promotion, Center for ... 752
Withdrawal
By the Student ... 62
By the University ... 62
Grade of W ... 62
Non-Compliance/Immunization Requirements ... 47
Policy ... 62
W-Limit Hours ... 62
Women's and Gender Studies ... 425
Minor(s) ... 425
Early Entry – Graduate Program(s) ... 425
Course Descriptions ... 730
Work/Study *(see Employment)* ... 79, 80
Writing, First-Year
Course Descriptions ... 730
Writing, Rhetoric, and Digital Studies, Department of ... 489
Major(s) ... 489
Minor(s) ... 491
Course Descriptions ... 730
Writing Placement Procedures ... 46

UNIVERSITY OF NORTH CAROLINA CHARLOTTE

Campus Map

Prepared by:
Facilities Information Systems
(704) 687-8622
www.charlotte.edu

Updated: 10/1/2021

Academic Buildings

4	Atkins	9	Garinger
16	Barnard	58	Grigg Hall
17	Belk Gym	87	Johnson Band Center
68	Bioinformatics	62	Kulwicki Laboratory
38	Burson	02	Macy
42	Cameron Hall	20	McEniry
52	Cato College of Education	18	Memorial Hall
85	Charlotte Engineering Early College	75	Motorsports Research
63	College of Health & Human Services	80	PORTAL
32	Colvard	51	Robinson Hall
8	Denny	19	Rowe
57	Duke Centennial Hall	97	Science Building
72	EPIC	12	Smith
45	Fretwell	41	Storrs
35	Friday	10	Winningham
		56	Woodward

Services - Places of Interest

General		***Administration***		***Places of Interest***	
39	Aux Services Building	48	Cato Hall - Graduate Admissions	54	Bissell House - Chancellor's Residence
46	Barnhardt - Student Activity Center - Halton Arena	535	Cedar Hall	71	Foundation
31	Cafeteria Activities Building	5	Cone University Center - Niner Central - Billing and Payments - Financial Aid - Registration/Transcripts	86	Foundation Annex
55B	Campus Police	95	Gage Undergraduate Admissions	77	Halton-Wagner Tennis Complex
5	Cone University Center	536	Hickory Hall	64	Harris Alumni Center
55A	Facilities Management	1	Kennedy	88	Hauser Alumni Pavilion
92	Facility Operations & Parking Services	11	King	44	Irwin Belk Track & Field
67	Hayes Baseball Stadium	36	Reese	6001	Jamil Niner Student Pantry
29	Housing & Res Life	537	Sycamore Hall	15	Niner House
37	McMillan Greenhouse	***Dining Services***		74	NRFC Fieldhouse
49	Miltimore-Wallis Center	5	Cone University Center	93	Receiving & Stores
91	Price Counseling Center	69	Popp Martin Student Union	79	Richardson Stadium
65	Student Health Center	80	PORTAL	78	Rose Football Center
4A	University Career Center	34	Prospector	6004	UNC Charlotte Marriott Hotel & Conference Center
96	University Recreation Center	82	South Village Crossing	43	Wells Fargo Fieldhouse

Access the Interactive Campus Map
maps.charlotte.edu

Campus Housing

562	Belk Hall	561	Miltimore Hall
543	Elm Hall	540	Oak Hall
560	Greek Village	541	Pine Hall
538	Hawthorn Hall	502	Sanford Hall
504	Holshouser Hall	503	Scott Hall
563	Hunt Hall	545	Wallis Hall
565	Laurel Hall	544	Witherspoon Hall
566	Levine Hall		
546	Lynch Hall		
542	Maple Hall		
564	Martin Village		

Parking Areas

Faculty & Staff (F/S)	Commuter & F/S	Visitor Parking
Lot 11	Lot 4A	***Pay on Foot Stations:***
Lot 15*	Lot 5 & 5A	Cone Deck 2** - Rooftop
Lot 29 & 29A	Lot 7 & 7A	CRI Deck 1**
CAB Lot	Lot 12	East Deck 1
Cone Deck 1 & 2*	Lot 14	South Village Deck** - Level 3
CRI 3*	Lot 23	Union Deck** - Levels 4 & 6
East Deck 1*	Lot 26	
SAC N Lot	CRI 2	
Union Deck Levels 4-6*	East Deck 2 & 3	
Resident & F/S	Union Deck	
Lot 8 & 8A	West Deck	
Lot 13	**Resident Commuter, & F/S**	***Metered:***
Lot 16	CRI Deck 1	Lot 4
Lot 20	Lot 6	Lot 13
Lot 21	Lot 25	Lot 16
RDH Lot	Lot 27	Lot 20
Disability Accessible	Lot 101	Lot 21
Lot 16A, CRI Lot 3A	South Village Deck	Lot 28**
Lot 23A, CRI Lot 4A	North Deck	Lot 30**
Lot 28, CRI Lot 5A	**For Parking Info Visit pats.charlotte.edu**	Greek Village Lot
Belk ADA Lot, North Deck		Robinson Hall Lot
CRI Lot 1 & 1A, SAC HC Lot		
CRI Lot 2A		

* F/S Premium Lot ** ADA Visitor Parking

ADA Accessible Parking
Metered Parking
Visitor Parking
Light Rail Stations

0 500 1,000 2,000 Feet