GRADUATE CATALOG

CAROLINA

2025-2026

ON THE WEB: CATALOG.UNC.EDU

THE UNIVERSITY
of NORTH CAROLINA
at CHAPEL HILL

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ACADEMIC CALENDAR

2025-2026

University Registrar calendars can be obtained on the University Registrar's website (http://registrar.unc.edu). For more information on Summer and Maymester Sessions, visit the Summer School's website (http://summer.unc.edu).

Summer Session I (SSI) and Maymester (MM) 2025

MM and SSI classes begin	Wednesday, May 14
MM last day for late registration	Wednesday, May 14
SSI last day for late registration	Thursday, May 15
Holiday (Memorial Day). No classes	Monday, May 26
MM classes end/exams	Thursday, May 29 Friday, May 30
SSI classes end	Tuesday, June 17
Holiday (Juneteenth). No classes	Thursday, June 19
SSI reading day	Wednesday, June 18
SSI exam days	Friday, June 20 Saturday, June 21

Summer Session II (SSII) 2025

SSII classes begin	Monday, June 23
SSII last day for late registration	Tuesday, June 24
Holiday (Independence Day). No classes	Friday, July 4
SSII classes end	Thursday, July 24
SSII reading day	Friday, July 25
SSII exam days	Monday, July 28 Tuesday, July 29

Fall Semester 2025

New student convocation	Sunday, August 17
Classes begin	Monday, August 18
Last day for late registration	Friday, August 22
Holiday (Labor Day). No classes	Monday, September 1
University Day. Classes cancelled during ceremony	Sunday, October 12th
Well-being days. No classes	Monday, September 15 Tuesday, October 7
Fall break. No classes	Thursday, October 16 Friday, October 17
Thanksgiving recess. No classes	Wednesday, November 26 Thursday, November 27 Friday, November 28
Classes end	Wednesday, December 3
Reading days	Thursday, December 4 Wednesday, December 10
Exam days	Friday, December 5 Saturday, December 6 Monday, December 8 Tuesday, December 9 Thursday, December 11 Friday December 12
Fall Commencement	Sunday, December 14

Spring Semester 2026

Classes begin	Wednesday, January 7
Last day of late registration	Wednesday, January 14
Holiday (MLK Jr.). No classes	Monday, January 19
Well-being days	Monday, February 9 Thursday, April 2
Spring break begins 5:00 p.m.	Friday, March 13
Classes resume 8:00 a.m.	Monday, March 23
Spring holiday. No classes	Friday, April 3
Classes end	Monday, April 27
Reading days	Tuesday, April 28 Friday, May 1 Wednesday, May 6
Exam days	Wednesday, April 29 Thursday, April 30 Saturday, May 2 Monday, May 4 Tuesday, May 5 Thursday, May 7
Spring Commencement	Saturday, May 9

Summer Session I (SSI) and Maymester (MM) 2026

SSI and MM classes begin	Wednesday, May 13
MM last day for late registration	Wednesday, May 12
SSI last day for late registration	Thursday, May 14
Holiday (Memorial Day). No classes	Monday, May 25
MM classes end/exams	Thursday, May 28 Friday, May 29
SSI classes end	Tuesday, June 16
Holiday (Juneteenth). No classes	Friday, June 19
SSI reading day	Wednesday, June 17
SSI exam days	Thursday, June 18 Saturday, June 20

Summer Session II (SSII) 2026

SSII classes begin	Monday, June 22
SSII last day for late registration	Tuesday, June 23
Holiday (Independence Day). No classes	Friday, July 3
SSII classes end	Thursday, July 23
SSII reading day	Friday, July 24
SSII exam days	Monday, July 27 Tuesday, July 28

ABOUT UNC

The University Catalog

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

Published by the University of North Carolina at Chapel Hill, Chapel Hill, N.C.

Accreditation

The University of North Carolina at Chapel Hill is accredited by the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) to award baccalaureate, masters, educational specialist, and doctorate degrees. Degree-granting institutions also may offer credentials such as certificates and diplomas at approved degree levels. Questions about the accreditation of the University of North Carolina at Chapel Hill 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 (http://www.sacscoc.org).

Mission Statement: The University of North Carolina at Chapel Hill

The University of North Carolina at Chapel Hill, the nation's first public university, serves North Carolina, the United States, and the world through teaching, research, and public service. We embrace an unwavering commitment to excellence as one of the world's great research universities.

Our mission is to serve as a center for research, scholarship, and creativity and to teach a diverse community of undergraduate, graduate, and professional students to become the next generation of leaders. Through the efforts of our exceptional faculty and staff, and with generous support from North Carolina's citizens, we invest our knowledge and resources to enhance access to learning and to foster the success and prosperity of each rising generation. We also extend knowledge-based services and other resources of the University to the citizens of North Carolina and their institutions to enhance the quality of life for all people in the State.

With *lux, libertas* — light and liberty — as its founding principles, the University has charted a bold course of leading change to improve society and to help solve the world's greatest problems.

Approved by the UNC Board of Governors, November 2009, February 2014, July 2022

Policy on Prohibited Discrimination, Harassment and Related Misconduct Including Sexual and Gender-Based Harassment, Sexual Violence, Interpersonal Violence and Stalking

The University is committed to providing a welcoming environment for all members of our community. It is firmly committed to maintaining a campus environment free from discrimination, harassment, and related misconduct. In accordance with its Policy Statement on Nondiscrimination, the University does not unlawfully discriminate in offering equal access to its educational programs and activities or with respect to employment terms and conditions on the basis of an individual's age, color, disability, gender, gender expression, gender identity, genetic information, race, national origin, religion, sex, sexual orientation, or veteran status (collectively referred to as "protected status"). The University's protection of these statuses is grounded in federal law. Federal law also governs the University's response to sexual assault, sexual violence, interpersonal violence (including domestic and dating violence), and stalking. Such acts violate the essential dignity of our community member(s) and are contrary to our institutional values.

For more information about the policy and procedures, visit the University's Policy on Prohibited Discrimination, Harassment and Related Misconduct Including Sexual and Gender-Based Harassment, Sexual Violence, Interpersonal Violence and Stalking, the University's Policy Statement on Nondiscrimination, (https://policies.unc.edu/TDClient/2833/Portal/KB/ArticleDet/?ID=131717) Nondiscrimination for Program Participants (https://policies.unc.edu/TDClient/2833/Portal/KB/ArticleDet/?ID=131707), Nondiscrimination for Student Organizations (https://policies.unc.edu/TDClient/2833/Portal/KB/ArticleDet/?ID=131706), or contact the Equal Opportunity and Compliance Office (https://eoc.unc.edu/).

Equal Opportunity and Compliance Office
214 W. Cameron Ave., Campus Box 9160
Chapel Hill, NC 27599-9160
Telephone: (919) 966-3576
Email: eoc@unc.edu

Policy Statement on Nondiscrimination: Educational and Employment Decisions

The University is committed to providing an inclusive and welcoming environment and to ensuring that educational and employment decisions are based on individuals' abilities and qualifications. Consistent with these principles and applicable laws, it is therefore the University's policy not to discriminate on the basis of age, color, disability, gender, gender expression, gender identity, genetic information, national origin, race, religion, sex, sexual orientation, or veteran status as consistent with the University's Policy on Prohibited Discrimination, Harassment, and Related Misconduct. No person, on the basis of protected status, shall be excluded from participation in, be denied the benefits of, or be subjected to unlawful discrimination, harassment, or retaliation under any University program or activity, including with respect to employment terms and conditions. Such a policy ensures that only relevant factors are considered and that equitable and consistent standards of conduct and performance are applied.

Resources for Information and Assistance

Individuals are encouraged to report incidents of prohibited conduct to the Equal Opportunity and Compliance Office, the Title IX Compliance Coordinator, the Report and Response Coordinators, the Office of the Dean of Students, or the UNC Department of Public Safety. As an alternative, an individual can also seek confidential assistance that does not involve notice to the University. If the conduct you have experienced is sexual violence or other criminal activity, including interpersonal (relationship) violence or stalking, you are also encouraged to report the incident to local law enforcement. See below for a comprehensive list of support and reporting options or refer to the University's Policy on Prohibited Discrimination, Harassment, and Related Misconduct (https://policies.unc.edu/TDClient/2833/Portal/Shared/Search/?c=all&s=Policy+on+Prohibited+Discrimination%2C+Harassment+and+Related+Misconduct).

Reporting Options

UNC Department of Public Safety (http://dps.unc.edu)
(919) 962-8100

Equal Opportunity and Compliance Office (http://eoc.unc.edu)
214 W. Cameron Avenue
(919) 966-3576

Associate Vice Chancellor for Equal Opportunity and Compliance/Title IX Coordinator
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cehall@email.unc.edu
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kmwinn@unc.edu
(919) 843-2993

Quintyn Bobb, *Compliance Coordinator*
Quintyn.Bobb@unc.edu
(919) 962-1586

Investigations Support Coordinator

Bill Floyd
floydb@email.unc.edu
(919) 962-7151

Accommodations

Director of Equal Opportunity/Americans with Disabilities Act (ADA) Coordinator
Tiffany Bailey
tmbailey@email.unc.edu (cehall@email.unc.edu)
(919) 966-7545

Deputy Americans With Disabilities Act and ection 504 Coordinator for EOC
Simon Bloor
simon.bloor@unc.edu
(919) 962-8300

Accommodations Support Coordinators
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mad2001@email.unc.edu
(919) 962-8300

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mgdennos@email.unc.edu

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(919) 445-4663

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(919) 962-8300

Senior Accommodations Specialist
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kculhane@live.unc.edu
(919) 962-9504

Accommodations Testing Coordinator
Ryan Ronan
rronan@unc.edu
(919) 962-8300

Accommodations Support Coordinator
Zoe Rosen
rosenz@unc.edu
(919) 962-8300

Communications

Communications Specialist
Hannah Langley
hannah_langley@unc.edu (cehall@email.unc.edu)

The Office of the Dean of Students (https://dos.unc.edu/)

1106 Student and Academic Services Building North
(919) 966-4042
dos@unc.edu

Confidential Resources

Carolina Ethics Line (https://secure.ethicspoint.com/domain/media/en/gui/10808/)
(919) 445-8362
ethicsandintegrity@unc.edu
The University's Compliance Line, now called Carolina Ethics Line, is a secure method through which to submit an anonymous report regarding academic matters, athletics, financial improprieties, faculty and staff matters, health care, information technology, research, risk and safety, student affairs, or other matters either online or by telephone. All reports submitted through Carolina Ethics Line will be given careful attention by appropriate UNC–Chapel Hill offices and officials. Anyone filing a report via Carolina Ethics Line should retain the report key and password and return to the website within 10 working days to check for comments or followup questions.
(866) 294-8688 (toll free)

Campus Health Services (https://campushealth.unc.edu)
(919) 966-2281

UNC Hospital Emergency Room (http://www.med.unc.edu/emergmed/)
(984) 974-4721

Counseling and Psychological Services (https://campushealth.unc.edu/services/counseling-and-psychological-services/)
(919) 966-3658

University Ombuds Office (http://ombuds.unc.edu)
(919) 843-8204

Violence Prevention and Advocacy Services (https://vpas.unc.edu/)

Holly Lovern, *Director*
(919) 962-1343
gvsc@unc.edu

Connor McCaffrey, *Coordinator*
(919) 962-1343
gvsc@unc.edu

Andrea Wright, *Coordinator*
(919) 962-1343
andrea_wright@unc.edu

Compass Center for Women and Families (https://www.compassctr.org/)
(919) 929-7122 (24-hour hotline)

ComPsych Employee Assistance Program (http://guidanceresources.com)
(877) 314-5841 (24 hours)

Orange County Rape Crisis Center (http://ocrcc.org)
(919) 968-4647 (local number)
(919) 967-7273 (24-hour hotline, local number)

Graduation Rate

Pursuant to the federal Student Right-to-Know Act, we report that, in 2023–2024, the six-year completion or graduation rate for undergraduates who entered the University of North Carolina at Chapel Hill in 2018 on a full-time basis was 91.2 percent.

ADMINISTRATIVE OFFICERS

The University of North Carolina at Chapel Hill Catalog is updated once yearly during the early spring and is published on June 1. For archiving and legal purposes, it serves as a static record of the upcoming academic year. The information you see here was published in early June, 2025, and will not be updated again until June, 2026.

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Ted Lotchin, *Chief Compliance Officer, UNC Health*

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Athletics

Lawrence R. "Bubba" Cunningham, *Director, Athletics*

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To contact any member of the University of North Carolina Board of Governors, email public@bog.northcarolina.edu.

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Michael Williford

UNC-CHAPEL HILL: AN INTRODUCTION

The University of North Carolina at Chapel Hill is the most comprehensive institution in North Carolina, both in the range of its programs at all levels and in the breadth of its specialized research and public service programs. Its 14 schools and the College of Arts and Sciences provide instruction in more than 100 fields, offering 74 bachelor's, 104 master's, 65 doctoral, and 7 professional degrees, as well as 16 certificates, in academic areas critical to North Carolina's future: business, dentistry, education, information and library science, media and journalism, government, law, medicine, nursing, pharmacy, public health, and social work, among others.

Since 1795, when its doors first opened to students, the University has remained faithful to its founders' charge to duly encourage and promote all useful learning for the betterment of humanity.

The University was anticipated by a section of the first state constitution drawn up in 1776 directing the establishment of "one or more universities" in which "all useful learning shall be duly encouraged and promoted." State support, it directed, should be provided so that instruction might be available "at low prices." The American Revolution intervened, and it was not until 1789, the year that George Washington became president of the new nation, that the University was chartered by the General Assembly. Despite constitutional instructions to the contrary, no state appropriations were made, and the trustees were left to secure land and money themselves. On October 12, 1793, the cornerstone was laid for a brick building on a hilltop near the center of the state amidst the colorful fall foliage of dogwood, oak, and tulip trees.

The site, lying at the crossing of north-south and east-west roads, was marked only by a small Anglican chapel that soon shared part of its name — New Hope Chapel Hill — with the community that developed there. Legislator and trustee William R. Davie, who had been instrumental in securing passage of the charter, took the lead in organizing the University. Davie presided over the Masonic ritual of the laying of the cornerstone. In time he came to be called "the Father of the University." Many years later a large poplar or tulip tree, first mentioned in 1818 and still standing near the center of the old campus, was called Davie Poplar in his honor.

The first building and, indeed, the only building for two years, was a two-story brick structure that came to be called Old East. It is now a National Historic Landmark, the oldest state university building in America. Opened to students on January 15, 1795, the University of North Carolina received its first student, Hinton James of New Hanover County, on February 12. By March there were two professors and 41 students present.

The second state university did not begin classes until 1801, when a few students from nearby academies assembled under a large tree at Athens, Georgia, for instruction. By then four classes had already been graduated at Chapel Hill, and there were to be three more before the first diplomas were issued in Georgia. The next building on the Carolina campus was Person Hall, begun in 1796 and long used as the chapel. The cornerstone of Main or South Building was laid in 1798. All three are older than any other American state university building.

The Young University

During the early 19th century the trustees began a period of strong support in the development of the young University. Even though their proclaimed initial goal for the University had been to provide trained leadership for the state, the curriculum followed the customary classical trend. In 1815, however, the natural sciences were given equal place, and in the 1820s Professors Denison Olmstead and Elisha Mitchell prepared the nation's first geological survey. In 1831 the first astronomical observatory at a state university was built under the direction of President Joseph Caldwell. Student enrollment increased steadily, and by 1860 only Harvard, Yale, and the University of Virginia had more students.

Young men from many states came to Chapel Hill for their education, particularly those from families who had recently left North Carolina to settle elsewhere in the South. The University of North Carolina provided governors not only for North Carolina but also for many other states; countless professions and occupations were represented among its graduates, including cabinet members, clergymen, diplomats, engineers, geologists, judges, legislators, surveyors, teachers, and a president and a vice president of the United States.

Though the Civil War closed many colleges and universities, the University at Chapel Hill remained open throughout the war, though its students were few. During Reconstruction, however, it was closed from 1870 until 1875. When it reopened, the University's leadership began to inaugurate programs that once again marked it as a leading university.

The General Assembly in 1931 consolidated the University with the Woman's College at Greensboro and North Carolina State College at Raleigh under a single board of trustees. As an economy measure during the Depression and as a means of eliminating duplication, the trustees allocated each unit specific roles in higher education for the state. The offices of the Consolidated University were established on the Chapel Hill campus and University President Frank Porter Graham became the Consolidated University's first president.

The period of the Depression in the 1930s saw a great deal of new construction on the campus as federal funds became available to create jobs for the unemployed. New dormitories, classroom buildings, a gymnasium, and other buildings and improvements were built in part from this source. World War II also resulted in some new construction and alterations on campus as the University's facilities were used to train military personnel.

Expansion continued throughout the 20th century, and today UNC–Chapel Hill ranks among the great institutions of higher education in the nation. Beginning with one building, 41 students, and two professors, the University has now grown to more than 300 buildings, 30,011 students annually, and 3,887 faculty members.

Top Rankings

The University has been recognized for the quality of its undergraduate and graduate programs in every national survey conducted in the last third of the 20th century and into the 21st. *U.S. News and World Report*'s survey of American colleges and universities consistently ranks the University among the best colleges in the nation and among the top research universities.

These accolades reflect the quality of the curriculum and of the faculty, whose research orientation allows them to share with their students not only the thrill of discovery but also the latest advancements and new knowledge. Another asset that contributes to this reputation is UNC–Chapel Hill's superb library system containing more than nine million print and electronic volumes. It is ranked among the top research libraries in the United States and Canada by the Association of Research Libraries.

THE UNC SYSTEM

History of the University

In North Carolina all the public educational institutions that grant baccalaureate degrees are part of the University of North Carolina. The University of North Carolina at Chapel Hill is one of the constituent institutions of the multicampus state university.

The University of North Carolina, chartered by the North Carolina General Assembly in 1789, was the first public university in the United States to open its doors and the only one to graduate students in the 18th 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.

In 1877 the North Carolina General Assembly began sponsoring additional institutions of higher education, diverse in origin and purpose. Five were historically black institutions, and another was founded to educate Native Americans. Several were created to prepare teachers for the public schools. Others had a technological emphasis. One is a training school for performing artists.

In 1931 the North Carolina General Assembly redefined the University of North Carolina to include three state-supported institutions: the campus at Chapel Hill (now the University of North Carolina at Chapel Hill), North Carolina State College of Agriculture and Engineering at Raleigh (now North Carolina State University), and the North Carolina College for Women (Woman's College) at Greensboro (now the University of North Carolina at Greensboro). The new multicampus University operated with one board of trustees and one president. By 1969 three additional campuses had joined the University through legislative action: the University of North Carolina at Charlotte, the University of North Carolina at Asheville, and the University of North Carolina at Wilmington.

In 1971 the General Assembly passed legislation bringing into the University of North Carolina the state's 10 remaining public senior institutions, each of which had until then been legally separate: Appalachian State University, East Carolina University, Elizabeth City State University, Fayetteville State University, North Carolina Agricultural and Technical State University, North Carolina Central University, North Carolina School of the Arts, Pembroke State University, Western Carolina University, and Winston-Salem State University. This action created a 16-campus University. In 1985 the North Carolina School of Science and Mathematics, a residential high school for gifted students, was declared an affiliated school of the University, and it became the 17th constituent institution.

The UNC Board of Governors is the policy-making body legally charged with "the general determination, control, supervision, management, and governance of all affairs of the constituent institutions." It elects the president, who administers the University. The 32 voting members of the board are elected by the North Carolina General Assembly for four-year terms. Former board chairs and board members who are former governors of North Carolina may continue to serve for limited periods as nonvoting members emeriti. The president of the UNC Association of Student Governments, or that student's designee, is also a nonvoting member. The UNC System Office (http://www.northcarolina.edu/) is in Chapel Hill, NC.

Each of the 17 institutions is headed by a chancellor, who is chosen by the Board of Governors on the president's nomination and is responsible to the president. Each institution has a board of trustees, consisting of eight members elected by the Board of Governors, four appointed by the governor, and the president of the student body, who serves ex officio. (The North Carolina School of the Arts has two additional ex officio members.) Each board of trustees holds extensive powers over academic and other operations of its institution on delegation from the Board of Governors.

The UNC System Office

Peter Hans
President

Andrea Poole
Chief of Staff

David J. English
Senior Vice President, Academic Affairs and Chief Academic Officer

Bart Goodson
Senior Vice President, Government Relations

Jennifer Haygood
Senior Vice President, Finance and Administration and Chief Financial Officer

Andrew P. Kelly
CEO of Project Kitty Hawk, Senior Advisor to the President

Shun Robertson
Interim Senior Vice President, Strategy and Policy

Mary Shuping
Interim Executive Director, North Carolina State Education Assistance Authority

Ivy Taylor
Senior Advisor to the President

Andrew Tripp
Senior Vice President, Legal Affairs and General Counsel

Thomas Walker
Senior Advisor, University Workforce Policy

Michael Vollmer
Chief Operating Officer

The University of North Carolina: Constituent Institutions

Universities

Appalachian State University (http://www.appstate.edu/)

East Carolina University (http://www.ecu.edu/)

Elizabeth City State University (http://www.ecsu.edu/)

Fayetteville State University (http://www.uncfsu.edu/)

North Carolina Agricultural and Technological State University (http://www.ncat.edu/)

North Carolina Central University (http://www.nccu.edu/)

University of North Carolina School of the Arts (http://www.uncsa.edu/)

North Carolina State University (http://www.ncsu.edu/)

University of North Carolina at Asheville (http://www.unca.edu/)

University of North Carolina at Chapel Hill (http://www.unc.edu/)

University of North Carolina at Charlotte (http://www.uncc.edu/)

University of North Carolina at Greensboro (http://www.uncg.edu/)

University of North Carolina at Pembroke (http://www.uncp.edu/)

University of North Carolina at Wilmington (http://www.uncw.edu/)

Western Carolina University (http://www.wcu.edu/)

Winston-Salem State University (https://www.wssu.edu/)

High School

North Carolina School of Science and Mathematics (http://www.ncssm.edu/)

GRADUATE

About the Graduate Catalog

The *Graduate Catalog* provides basic information about more than 60 doctoral and over 100 master's programs currently active in The Graduate School. It describes admission standards and requirements, tuition and other costs, and sources of financial aid (including fellowships). Links to research institutes and centers also are given. In addition to brief descriptions of programs and a comprehensive listing of all graduate courses, this catalog includes, under each program description, a current roster of graduate faculty members specializing in that area together with their specific research interests. For additional information on many of these topics, please visit The Graduate School's website (http://gradschool.unc.edu/).

The University of North Carolina at Chapel Hill is one of the leading graduate research universities in the United States. As one of the most comprehensive universities in the nation, Carolina provides a breadth of study and interdisciplinary experience matched by few institutions. The University's academic excellence is enhanced by the support of a community that includes people from a range of ethnic, racial, socioeconomic, and geographic backgrounds, as well as individuals whose personal attributes contribute to a rich learning environment. The University is committed to equality of educational opportunity. In addition to an outstanding faculty, comprehensive research and library resources, and exceptional facilities, the University has a warm and collegial spirit that is conducive to students' personal growth and scholarship.

As a supplement to the *Graduate Catalog,* the Graduate School Handbook *(*http://handbook.unc.edu/*)* contains most of the policies and procedures of The Graduate School at the University of North Carolina at Chapel Hill. Students should become familiar with the material pertaining to their degree programs and, together with their faculty advisors, make certain that the chosen program of study complies with all policies.

Several UNC–Chapel Hill schools offer graduate degree programs that are not administered by The Graduate School. For information about these programs, please consult the following websites: Kenan–Flagler Business School, (http://www.kenan-flagler.unc.edu/) UNC Adams School of Dentistry (http://www.dentistry.unc.edu/), School of Education (https://ed.unc.edu/), School of Law, (http://www.law.unc.edu/) School of Medicine, (https://www.med.unc.edu/) and Eshelman School of Pharmacy (http://pharmacy.unc.edu/).

Administrative Board of The Graduate School

David Adalsteinsson (2026)
Mathematics

Lucinda Austin (2027)
School of Journalism and Media

Rob Capra (2025)
School of Information and Library Science

Mike Christian (2027)
Kenan-Flagler Business School

Adrienne Cox (2027)

Pharmacology and Radiation Oncology

Shelley Golden (2026)
Gillings School of Global Public Health

Carmen Hsu (2026)
Romance Studies

Adam Jacks (2027)
School of Medicine - Department of Health Sciences

Sarah Jacobson
Assistant Dean for Admissions/Enrolled Students, Graduate School

Willow Jacobson (2028)
School of Government

Jasleen Kaur (2027)
Computer Science

Nikhil Kaza (2026)
City and Regional Planning

Josh Little (2027)
Adams School of Dentistry

Beth Mayer-Davis
Dean, Graduate School

Marisa Marraccini (2026)
School of Education

Kate McAnulty
Senior Associate Dean for Student Affairs, Graduate School

Brian McManus (2028)
Economics

Andrea Murray-Lichtman (2026)
School of Social Work

Carrie Palmer (2027)
School of Nursing

Vacant (2028)

Social Sciences

Brian Rybarczyk
Associate Dean for Professional Development, Graduate School

Stephanie Schmitt
Vice Dean, Graduate School

Kim Stern (2026)
English and Comparative Literature

Kathleen Thomas (2027)
Eshelman School of Pharmacy

Frank Tsui (2026)

Physics and Astronomy

Alex Worsnip (2027)
Philosophy

President (2026)
GPSG Representative

Graduate School Staff

The Graduate School is committed to improving and facilitating the integration of graduate and professional students' academic, professional, and personal development, as well as to assist students to make the most of their Carolina experience. To further these aims, The Graduate School staff, located in Bynum Hall and the Graduate Student Center, is responsible for assisting students in a number of capacities. The offices of the associate dean for student affairs and the associate dean for academics create and implement programs and services that specifically address the needs of graduate and professional students. Some of these programs are listed below. The diversity and student success program develops and provides a number of programs and services throughout the year, both academic and social in nature, to assist graduate students of color with a successful transition and experience during their graduate work. The director of graduate student academic and professional development oversees workshops, training, and events in the Graduate Student Center focused on broad professional skills and career success. Graduate School staff are available to all graduate and professional students as a source of counsel, information, and referral for questions involving student services, academic procedures, policies, and grievances. Information is available by telephone at (919) 962-7772 or on the Web (http://gradschool.unc.edu/).

Beth Mayer-Davis
Dean

A complete Staff Directory is found on this Web **(**https://gradschool.unc.edu/about/directory/**)** site **(**https://gradschool.unc.edu/about/directory/**)**

History of The Graduate School

The University of North Carolina at Chapel Hill was the first state university to admit students. It was chartered in 1789 and formally opened in 1795; from early in its history, it has encouraged research and creative activity. As early as 1853–1854 the catalog of the University carried an announcement of graduate coursework. In 1876, after the institution had been closed for the period 1871–1875, the catalog announced the requirements for the master's degree, and the next issue carried an announcement of regulations governing the degrees of master of arts, master of science, and doctor of philosophy. Several graduate degrees were awarded before the turn of the century (the first Ph.D. having been conferred in 1883) but it was not until 1903 that a separate graduate school with a dean was established.

The Graduate School celebrated its 100th year in 2003 by hosting a national forum on graduate education, sponsoring numerous student and alumni recognition ceremonies, and commissioning the book, *Pioneer to Powerhouse: The History of Graduate Education at Carolina.*

In 1922 the graduate faculty voted to vest in the Administrative Board of The Graduate School legislative powers in matters that affected graduate education, to authorize the Administrative Board to admit members to the teaching faculty of The Graduate School, and to vest in the Administrative Board the responsibility for authorizing curricula and courses carrying graduate credit.

With the exception of select professional degree programs (see Handbook), all master's degrees offered by the University and the degrees of doctor of philosophy, doctor of education (post-2011), doctor of nursing practice, and doctor of public health are conferred by The Graduate School.

Work toward advanced degrees at the University of North Carolina at Chapel Hill proceeds under policies and regulations established by the graduate faculty. The immediate direction of The Graduate School is in the charge of the Administrative Board, of which the dean is chair. At present the board consists of academic and health affairs faculty representatives appointed by the chancellor upon nomination by the dean of The Graduate School.

Summer School for Graduate Students

The University of North Carolina at Chapel Hill established what was possibly the first summer school in America in 1877. The "Summer Normal School," as it was then called, enrolled 235 students in courses over 10 disciplines. About half the students were teachers; students came from 42 counties across North Carolina and from neighboring states. Summer School was the first school at UNC–Chapel Hill to enroll women, beginning in its first year and continuing thereafter. By 1925, records indicate that 19,983 students had enrolled in Summer School.

Curricula and courses offered during Summer School are comparable to those of the fall and spring semesters. Summer School offers two sessions of five weeks each, a three-week Maymester, and other short courses with various beginning and ending dates. The summer program is planned to meet the needs of graduate students who are fulfilling degree requirements in this institution, visiting graduate students who desire to take courses for transfer to other institutions, teachers and administrators who desire to meet state certification requirements, and other students who have special educational objectives.

Graduate students who wish to be admitted or readmitted for the summer to a degree program should contact The Graduate School. The requirements for admission to a degree program starting in the summer are the same as those in the regular academic year. Those who desire other information or those wanting to enroll in the summer as visiting students should visit Summer School's website (http://summer.unc.edu/), contact Summer School via email at summer_school@unc.edu, or telephone (919) 966-4364. Summer School is located at 134 East Franklin Street, Room 200, Chapel Hill, NC 27599-3340.

Visiting Scholars

Registration as a visiting scholar at the University of North Carolina at Chapel Hill entitles the registrant to certain privileges of the University, the issuance of a UNC One Card, and the use of University facilities for the duration of the visiting scholar's stay.

Eligibility for registration as a visiting scholar is limited to those who

1. Are not on the University payroll as employees in any capacity, and
2. Are visiting the University under the sponsorship of an academic department or school for the furtherance of scholarly interests.

Visiting scholars may include faculty members on leave from other institutions of higher learning, postdoctoral fellows, or others who hold the terminal degree in their fields and who are invited to visit by a department or school.

Persons interested in applying for visiting scholars status should communicate with the appropriate department or school within the University. Further details concerning University privileges for visiting

scholars are available from the Human Resources Office (http://hr.unc.edu/benefits/), CB# 1045, 104 Airport Drive, Chapel Hill, N.C. 27599-1045.

The University Year

Two semesters of approximately 17 weeks each and a summer school consisting of two sessions (each five and one-half weeks long) constitute the University year. The requirements for admission to graduate programs and for graduate degrees in the summer session are the same as those in the regular academic year. For the schedule of events of particular interest to graduate students, consult the academic calendars at the Office of the University Registrar (http://registrar.unc.edu/).

ADMISSIONS

The University Catalog contains information about admission requirements, placement tests, transfer of credit, readmission, online/self-paced/part-time studies, and summer orientation sessions.

Undergraduate students. The Office of Undergraduate Admissions (http://admissions.unc.edu/) serves students interested in continuing their education at the University of North Carolina at Chapel Hill. Applications from all students are accepted and considered with care and respect.

Admission to the University of North Carolina at Chapel Hill is competitive. Although all 16 public universities in North Carolina share the same minimum course and admission requirements, which are published on the University of North Carolina's website (http://www.northcarolina.edu), these minimum credentials do not guarantee admission to the University of North Carolina at Chapel Hill, and successful candidates typically exceed them. The Office of Undergraduate Admissions follows all regulations and guidance from the UNC System as outlined in the UNC Policy Manual and Code. (https://www.northcarolina.edu/apps/policy/?tab=policy#policy-tab) The policies listed below derive from section 700.1.1 and relevant subpages. This catalog reflects admissions policies and requirements for fall 2024. Refer to the Undergraduate Admissions website (https://admissions.unc.edu/) for 2025 updates.

Graduate students. Admission to Graduate School academic programs (http://gradschool.unc.edu/admissions/) is competitive and students are selected on the basis of their academic preparation, ability, and program fit. For some programs, an on-site preadmissions interview may be required. Early contact with your program of interest can be helpful in preparing your application.

GRADUATE ADMISSIONS

Welcome graduate applicants! We are pleased that you are applying for admission to the UNC–Chapel Hill Graduate School. Admission to Graduate School academic programs is competitive, and students are selected on the basis of their academic preparation, ability, and program fit. For some programs, an on-site preadmissions interview may be required. Early contact with your program of interest can be helpful in preparing your application.

For the most updated admissions information, please check The Graduate School's admissions website (http://gradschool.unc.edu/admissions/). The website often is more up to date than this annual publication, so we encourage prospective students to begin there.

The Graduate School relies mainly on e-mail to communicate with all applicants. Therefore, please include a current e-mail address on your application and be sure to respond promptly to all correspondence.

Required Application Materials

Required materials for all applicants include

- Graduate School online application (https://applynow.unc.edu/apply/)
- Application fee (http://gradschool.unc.edu/admissions/instructions.html#fee)
- Transcripts (http://gradschool.unc.edu/admissions/instructions.html#transcript)
- Current letters of recommendation (http://gradschool.unc.edu/admissions/instructions.html#ltrs)
- Standardized test scores (http://gradschool.unc.edu/admissions/instructions.html#tests)
- Statement of purpose (http://gradschool.unc.edu/admissions/instructions.html#purpose)
- Resume/CV (http://gradschool.unc.edu/admissions/instructions.html#resume)
- Supplemental information (any additional information or materials required by the program) (https://gradschool.unc.edu/programs/)

For international applicants only, the following additional materials are required:

- TOEFL or IELTS score (http://gradschool.unc.edu/admissions/instructions.html#toefl)

Once we have received all required application materials and fees, the review and evaluation of your application will begin. While the recommendations and test scores will likely arrive at The Graduate School at different times, it is your responsibility to make sure that the online application is submitted and the fee paid prior to the program's posted deadline.

Minimum Graduate Admission Requirements

The minimum requirements for admission to a graduate program are:

- A bachelor's degree (based on a four-year curriculum) completed before graduate study begins, or its international equivalent with an accredited institution
- An average grade of B (cumulative GPA 3.0) or better

Along with these minimal requirements, admission decisions are based on a number of factors, including academic degrees and record, written statement of purpose, letters of recommendation, test scores, and relevant work and research experience. All admission recommendations are made by each individual program or department.

The University of North Carolina at Chapel Hill Admissions Appeal Procedure

Revised August 2016

This section sets forth the procedures to be followed with respect to the appeal of a negative admissions decision, including a decision to rescind an admission that has already been granted.

Appeal to Admissions Officer

Appeals concerning individual admission, or admission rescission, decisions may be had only if it is contended that a) a provision set forth in the University of North Carolina at Chapel Hill admissions policy ("admissions policy") has been violated or b) the decision not to admit the individual or to rescind admission resulted from a material procedural error in the admissions process. An applicant's omission of relevant information from the original application for admission will not ordinarily constitute grounds for an appeal; nor will academic or personal circumstances that changed after the submission of the application. Such an appeal shall be lodged by the applicant-appellant with the administrative officer (the director of undergraduate admissions, the dean of The Graduate School, the dean of the professional school concerned, or the dean of Summer School) whose office had responsibility for the admission in question (hereafter the "admissions officer") within 30 days after the University posts the appellant's online decision. The appeal shall be in writing and shall set forth the grounds for the appeal.

Upon receipt of the appeal, the admissions officer or the admissions officer's designee shall review the applicant-appellant's file and appeal letter and shall communicate his or her decision to the appellant in writing.

Appeal to Provost

The decision of the admissions officer may be appealed to the provost only if it is contended that a) a provision set forth in the admissions policy has been violated or b) the decision not to admit the individual or to rescind admission resulted from a material procedural error in the admissions, or appeal, process. An applicant's omission of relevant information from the original application for admission or from the appeal to the admissions officer will not ordinarily constitute grounds for an appeal; nor will academic or personal circumstances that changed after the submission of the application or the appeal to the admissions officer. Such an appeal shall be lodged with the provost by filing a letter of appeal specifying the grounds for the appeal within 15 days after the appellant has received the letter communicating the decision of the admissions officer.

The appeal shall be heard by the provost or the provost's designee, and the appellant, at his or her option, may appear in person or conduct the appeal by telephone. Following the hearing, the provost or designee will

communicate the decision to the appellant in writing. The decision of the provost is final, and no further appeal is available.

Application Process

Applications for admission to the UNC–Chapel Hill Graduate School are submitted via the online admission application (https://applynow.unc.edu/apply/). All required materials listed above should be submitted according to the instructions provided. Your application will not be reviewed until the application is submitted and the application fee is received. By submitting an application to UNC–Chapel Hill, consent is granted to University staff to obtain any additional or missing information as needed, including campus safety information.

Application Deadlines

Please be aware that each program has a specific application deadline. Most programs admit students for the fall semester only, however a few programs allow spring or summer session admissions. Please see the listing of graduate programs and their application deadlines (https://gradschool.unc.edu/programs/) for accepted terms of entry.

Each offer of admission is specific for the term stated in the admission letter. If you do not register for classes or complete your first semester, you must apply again in a subsequent semester. Contact your intended program for questions about deferrals of admission offers.

Completed applications and nonrefundable application fees must be submitted before the program's application deadline. Applications will not be accepted for review or consideration after the posted graduate program deadline has passed. International applicants should apply early in order to allow sufficient time for financial and visa document preparation. The Graduate School recommends that international applicants submit a complete application no later than December 1.

Fellowship and Financial Aid Deadlines

Most of the financial support available to graduate students is based within individual programs. In addition, a limited amount of financial support is available from The Graduate School and is based upon nominations from individual programs. In order to allow sufficient time for your program to nominate you for Graduate School fellowships, it is recommended that your application be submitted by the fall Graduate School fellowships date. Please visit application deadlines (https://gradschool.unc.edu/programs/) for specific date information.

If your program continues to accept applications after the fall Graduate School fellowship date, you are still eligible for their program-based support. Contact your intended program for complete information about available graduate student financial support and relevant deadlines.

The University awards loans and tuition enhancement grants to graduate students who qualify, based on information provided in the FAFSA (http://www.fafsa.ed.gov/) (Free Application for Federal Student Aid) form due March 1. For more information, please visit the Office of Scholarships and Student Aid (http://studentaid.unc.edu/).

Campus Safety Information

Applicants for admission will be asked several questions regarding criminal pleas, charges and convictions, academic suspensions, and military discharges. If additional information is needed, you may be asked to submit information for a criminal background check, which requires a nominal fee. You must describe violations of law in your home country and in any other country in which you have resided. The term "law" includes codes, legal rules and regulations, and other criminal-type statutes or violations of municipal, local, provincial, state, federal, national, commonwealth, and other governmental jurisdiction. Failure to provide complete, accurate, and truthful information will be grounds to deny or withdraw your admission, or to dismiss you after enrollment. The same actions will occur if you fail to notify The Graduate School promptly in writing of such charges that occur at any time after you submit the application. Questions can be directed to The Graduate School's admissions contacts (http://gradschool.unc.edu/admissions/contacts.html).

GRADUATE EDUCATION

The Graduate Faculty

Graduate faculty members whose appointments are current as of the publication date of the *Graduate Catalog* are listed by academic rank in the department(s) in which they serve. Comprehensive listings of the graduate faculty may also be found on The Graduate School's website (https://gradschool.unc.edu/facultystaff/faculty/).

Within the school and departmental sections of the *Graduate Catalog*, following the faculty member's name, where applicable, is a section number that students should use when registering for independent studies, reading, research, and thesis and dissertation courses with that particular professor. Areas of specialization are listed for each faculty member following the section number.

Course Numbers and Credit

Courses numbered 400–699 are for advanced undergraduate and graduate students; courses numbered 700–999 are for graduate students only. The unit of measurement in meeting degree requirements is the semester hour — that is, one hour of lecture or at least two hours of laboratory or field work a week per semester. The number of credits, or the value of the course in semester hours, can be found after the course title in the listings for "Advanced Undergraduate and Graduate-level Courses" and "Graduate-level Courses."

Grade Appeals

The procedure for grade appeals can be found in the *Graduate School Handbook*. Any questions regarding the grade appeals process (http://handbook.unc.edu/grading.html) should be directed to The Graduate School.

Orientation

The Graduate School sponsors a university-wide orientation program for new graduate students. Its goals are to

1. Acclimate them to the University community and
2. Provide information sessions on a range of topics relevant to graduate students such as broad campus resources, campus health facilities, Graduate and Professional Student Federation, and getting to know the local area.

Important reference materials and guides to the campus and Chapel Hill/Carrboro area community resources are available to students on The Graduate School's website (http://gradschool.unc.edu/). These resources include the Graduate School Handbook (http://handbook.unc.edu/), Academic Integrity and Ethics (http://gradschool.unc.edu/academics/resources/ethics.html), Thesis and Dissertation Guide (http://gradschool.unc.edu/academics/thesis-diss/guide/), copies of University policies, and other helpful campus and community publications intended to be used throughout the student's graduate career. As orientation is a continuous process throughout a student's first year, The Graduate School also schedules a number of orientation workshops throughout the academic year on such topics as residency for tuition purposes, funding, and networking.

In addition to The Graduate School orientation, individual graduate and professional programs conduct department-based orientations for new students. Information regarding departmental orientations is available in the respective academic departmental offices.

Orientation and relocation information can be found on The Graduate School's website (http://gradschool.unc.edu/). The Graduate School Office, open year-round, is located on the second floor of Bynum Hall. Graduate School staff are available to answer questions and help students find the resources they need to make the most of their Carolina experience.

Professional Development in Graduate Education

The University of North Carolina at Chapel Hill is committed to providing students with the highest quality graduate education. While this clearly entails academic training, it also includes a commitment to providing students with resources and services to enhance their graduate experience and to prepare them for their poststudent careers.

The cornerstone of professional development at Carolina is a series of workshops and selected one-credit-hour courses. These workshops cover topics designed to promote graduate student academic, professional, and personal growth. Sessions are designed to provide students with the opportunity to develop five areas of professional competency: communication, leadership, teaching and instruction, professional adaptability, and self-awareness. Additional information is available on the web (https://careerwell.unc.edu/).

Graduate Student Foreign Language Proficiency Assessment

The departments of Romance Studies, Germanic Languages and Classics offer foreign language proficiency assessments in French, German, Spanish, Italian, and Latin (classical or medieval) for graduate students needing to satisfy a departmental foreign language requirement. This service is offered once each semester. The Graduate School administers registration for these assessments. Registration and scheduling information (http://gradschool.unc.edu/academics/resources/gflpa.html) is available on the web.

International Student and Scholar Services (ISSS)

International Student and Scholar Services (http://isss.unc.edu/) promotes international educational exchange through its services and programs. ISSS serves as the principal administrative, programming, and advising office for approximately 2,500 international students, faculty members, and administrative staff at UNC–Chapel Hill, including research scholars and visiting professors. Located in the FedEx Global Education Center, ISSS issues and helps maintain visa documentation, provides advising related to immigration matters and adjustment to life in the United States, and serves as a liaison between international students and scholars, their departments, and governmental and private agencies involved in international education exchange. In addition to administrative and advising services, ISSS provides programming that helps international students and scholars maximize their experience at UNC–Chapel Hill. Programs include orientation, tax seminars, and various cultural programs. The center is a focal point for community service organizations, including the Host Family Program, Conversation Partners Program, Speakers' Bureau, and International Women's English

Conversation Group. It also administers the UNC Class of '38 Summer Study Abroad Fellowships.

DEGREE PROGRAMS

Degree Programs By Schools and Departments

African, African-American, and Diaspora Studies –

- Africana Studies – M.A., Ph.D. (p. 39)

American Studies –

- American Studies – M.A. (p. 47), Ph.D. (p. 47)
- Folklore – M.A. (p. 47)

Anthropology – M.A. (p. 56), Ph.D. (p. 56)

Applied Physical Sciences –

- Materials Science – M.S., Ph.D. (p. 70)

Applied Professional Studies – M.A.P.S. (p. 78)

Art and Art History –

- Art History – M.A., Ph.D (p. 82).
- Studio Art – M.F.A. (p. 82)

Asian and Middle Eastern Studies – M.A. (p. 92)

Biochemistry and Biophysics – M.S. (p. 106), Ph.D. (p.)

Bioinformatics and Computational Biology – M.S., Ph.D. (p.)

Biology – M.A., M.S. (p. 121), Ph.D. (p. 121)

Biomedical Engineering – M.S., Ph.D. (p.) (joint with North Carolina State University)

Business Administration – M.S. (Business Research) (p. 158), Ph.D. (p. 158)

Cell Biology and Physiology – M.S., Ph.D. (p.)

Chemistry – M.A., M.S., Ph.D. (p. 182)

City and Regional Planning – M.C.R.P., Ph.D. (p.)

Classics – M.A., Ph.D. (p. 204)

Clinical Rehabilitation and Mental Health Counseling –

- Clinical Mental Health Counseling – M.S. (p. 210)
- Clinical Rehabilitation Counseling – M.S. (p. 215)

Communication –

- Communication Studies - M.A., Ph.D. (http://comm.unc.edu/graduate-studies/)

Computer Science – M.S., Ph.D. (p.)

Data Science and Society –

- Applied Data Science - M.A.D.S. (p. 244)

Dentistry –

- Dental Hygiene Education – M.S. (p. 247)
- Endodontics – M.S. (p. 247)
- Operative Dentistry and Biomaterials – M.S. (p. 247)
- Oral and Craniofacial Biomedicine – M.S., Ph.D. (p. 247)
- Oral and Maxillofacial Pathology – M.S. (p. 247)
- Oral and Maxillofacial Radiology – M.S. (p. 247)
- Orthodontics – M.S. (p. 247)
- Pediatric Dentistry – M.S. (p. 247)
- Periodontology – M.S. (p. 247)
- Prosthodontics – M.S. (p. 247)

Dramatic Art – M.F.A. (p. 262)

Earth, Marine, and Environmental Sciences – M.S., Ph.D. (p. 268)

Economics – M.S., Ph.D. (p. 272)

Education –

- Curriculum and Instruction – Ed.D. (p. 279)
- Educational Innovation, Technology, and Entrepreneurship – M.A. (p. 279)
- Educational Leadership – Ed.D (p. 279). (residential and distance)
- Master's/Doctorate in Education – M.A., Ph.D. (p. 279)
- Master of Arts in Teaching – M.A.T. (p. 279)
- School Counseling – M.Ed. (p. 279)
- School Psychology – M.A., M.Ed., Ph.D. (p. 279)

English and Comparative Literature – M.A., Ph.D. (p. 315)

Environment, Ecology and Energy –

- Ecology – M.A., M.S., Ph.D. (p. 334)

Exercise and Sport Science – M.A. (p. 374)

Genetics and Molecular Biology – M.S., Ph.D. (p.)

Geography and Environment – M.A., Ph.D. (p. 387)

Germanic and Slavic Languages and Literature -

- German Studies – M.A. (p. 396), Ph.D. (p. 396) (joint with Duke University)

Global Studies – M.A. (p. 414)

Government – M.P.A. (p. 419) (residential and distance)

Health Informatics –

- Health Informatics – Ph.D. (p.)

Biomedical and Health Informatics – M.P.S. (Residential) (p.), M.P.S. (Distance) (p.)

History – M.A., Ph.D. (p. 465)

Human Movement Science – M.S., Ph.D. (p.)

Information and Library Science –

Information and Library Science – Ph.D. (p. 486)

Information Science – M.S.I.S. (p. 486)

Library Science – M.S.L.S. (p. 486)

Digital Curation and Management (distance) – M.P.S. (p. 260)

Journalism and Media –

Media and Communication – M.A., Ph.D. (p. 528)

Digital Communication (distance) – M.A. (p. 528)

Linguistics – M.A. (p. 502)

Mathematics – M.A., M.S., Ph.D. (p. 520)

Microbiology and Immunology – M.S., Ph.D. (p. 567)

Musicology – M.A., Ph.D. (p. 574)

Neuroscience – M.S., Ph.D. (p. 577)

Nursing – D.N.P., M.S.N., Ph.D. (p. 584)

Occupational Science – M.S., Ph.D. (p. 611)

Occupational Therapy – M.S. (p. 611)

Pathology – M.S. (p. 616), Ph.D. (p. 616)

Pharmacy –

Pharmaceutical Sciences – M.S., Ph.D. (p. 631)

Regulatory Science – M.P.S. (p. 631)

Pharmacology – M.S., Ph.D. (p.)

Philosophy – M.A., Ph.D. (p. 634)

Physics and Astronomy – M.S., Ph.D. (p. 647)

Political Science – M.A., Ph.D. (p. 656)

Distance – M.A. (p. 656) (Trans-Atlantic Masters)

Psychology and Neuroscience –

Psychology – M.A. (p. 671), Ph.D. (p. 671)

Public Health – Master of Public Health (M.P.H. (p. 686)), MPH@UNC (distance)

Biostatistics – Dr.P.H., M.S., M.S.P.H., Ph.D. (p. 686)

Environmental Sciences and Engineering – M.S., M.S.E.E., M.S.P.H., Ph.D. (p. 686)

Epidemiology – M.S.C.R., M.S.P.H., Ph.D. (p. 686)

Health Behavior – Dr.P.H., M.S.P.H., Ph.D. (p. 686)

Health Policy and Management –

Residential – M.H.A., M.S.P.H., Ph.D. (p. 686)

Distance – Dr.P.H. (p. 686) in Public Health Executive Leadership (together with PHLP), M.H.A. (p. 686), M.S.D.M. (p. 686) (not active)

Maternal and Child Health –

Residential – Ph.D. (p. 686)

Nutrition – Dr.P.H., M.S., Ph.D. (p. 686)

Public Health Leadership and Practice – Dr.P.H. (p. 689) (together with HPM)

Public Policy – M.A., M.P.P., Ph.D. (p. 698)

Religious Studies – M.A., Ph.D. (p. 706)

Romance Studies -

Romance Languages and Literatures – M.A., Ph.D. (p. 722)

Social Work –

Residential – M.S.W. (p.), Ph.D. (p.)

Distance and Site-based – M.S.W. (p.)

Sociology – M.A., Ph.D. (p. 755)

Speech and Hearing Sciences – M.S., Ph.D. (p. 764)

Statistics and Operations Research –

Statistics, Analytics, and Data Science – M.S. (p. 774)

Statistics and Operations Research – Ph.D. (p. 774)

Toxicology – M.P.S. (https://www.med.unc.edu/toxicology/professional-masters-studies/curriculum/), M.S., Ph.D. (p.)

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Art (p. 81) and Art History (p. 81)

Asian and Middle Eastern Studies (p. 92)

Biochemistry and Biophysics (BBSP) (p. 106)

Bioinformatics and Computational Biology (BBSP) (p. 114)

Biology (p. 121)

Biomedical and Health Informatics (p. 440)

Biomedical Engineering (p. 140)

Biostatistics (p. 148)

Business Administration (p. 158)

Cell Biology and Physiology (BBSP) (p. 176)

Chemistry (p. 181)

City and Regional Planning (p. 190)

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Clinical Mental Health Counseling (p. 210)

Clinical Rehabilitation Counseling (https://catalog.unc.edu/graduate/schools-departments/division-clinical-rehabilitation-mental-health-counseling/)

Communication Studies (p. 220)

Computer Science (p. 230)

Curriculum and Instruction (p. 279)

Dental Hygiene Education (p. 247)

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Earth, Marine, and Environmental Sciences (p. 268)

Ecology (p. 334)

Economics (p. 272)

Education (p. 279)

Educational Innovation, Technology, and Entrepreneurship (https://ed.unc.edu/academics/programs/educational-innovation-technology-and-entrepreneurship/)

Educational Leadership (https://ed.unc.edu/academics/programs/educational-leadership/)

Endodontics (p. 247)

English and Comparative Literature (p. 315)

Environmental Sciences and Engineering (p. 344)

Epidemiology (p. 360)

Exercise and Sport Science (p. 374)

Folklore (AMST) (p. 47)

Genetics and Molecular Biology (BBSP) (p. 381)

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Master of Arts in Teaching (p. 279)

Materials Science (p. 70)

Maternal and Child Health (p. 512)

Mathematics (p. 520)

Microbiology and Immunology (BBSP) (p. 567)

Musicology (p. 574)

Neuroscience (BBSP) (https://catalog.unc.edu/graduate/schools-departments/neurobiology-curriculum/#text)

Nursing (p. 584)

Nutrition (p. 601)

Occupational Science (p. 611)

Occupational Therapy (p. 611)

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Oral and Craniofacial Biomedicine (p. 247)

Oral and Maxillofacial Pathology (p. 247)

Oral and Maxillofacial Radiology (p. 247)

Orthodontics (p. 247)

Pathology (BBSP) (p. 616)

Pediatric Dentistry (p. 247)

Periodontology (p. 247)

Pharmaceutical Sciences (p. 629)

Pharmacology (BBSP) (p. 623)

Philosophy (p. 634)

Physics and Astronomy (p. 646)

Political Science (p. 656)

Prosthodontics (p. 247)

Psychology (p. 671)

Public Administration (p. 419)

Public Health (p. 686)

Public Health Leadership and Practice (p. 688)

Public Policy (p. 697)

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School Counseling (p. 279)

School Psychology (p. 279)

Social Work (p. 740)

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Speech and Hearing Sciences (p. 764)

Statistics and Operations Research (p. 774)

Studio Art (p. 81)

Toxicology (BBSP) (p. 783)

Toxicology (PSM) (https://www.med.unc.edu/toxicology/professional-masters-studies/curriculum/)

Trans-Atlantic Masters (p. 656)

Master's Degree

Additional details can be found on the Graduate Handbook's Master's Degree Requirements (https://handbook.unc.edu/masters.html) page. Please consult the program's website to see which milestones apply.

Graduate School Milestones

Master's Committee	Members of the student's master's examining committee have been approved. See Thesis or Approved Substitute Requirements section.
Master's Oral Exam/Approved Exam Substitute	Student has successfully completed a required oral examination or approved exam substitute. See Examinations section.
Master's Written Exam/Approved Exam Substitute	Student has successfully passed a written exam or approved exam substitute. See Examinations section.
Master's Written Exam 2	Student has successfully completed a second (or specialty) written exam. See Examinations section.
Thesis Substitute	Student has completed an approved Master's Thesis Substitute. See Thesis or Approved Substitute Requirements section.
Thesis/Substitute Defense	Student has completed the oral defense of the thesis or approved thesis substitute. See Thesis or Approved Substitute Requirements section.
Approved Master's Thesis	Student has submitted their approved master's thesis, including revisions following its defense. See Thesis or Approved Substitute Requirements section.
Residence Credit	Student has completed the minimum program residence credit of two semesters either by full-time registration or by part-time registration over several semesters. See Credit and Residence Requirements section.
Foreign Language	Student has completed language requirement(s) if required by the program. See Foreign Language or Research Requirement section.
Master's Exit Survey	Student has provided feedback on graduate education quality and experiences by completing the graduating student exit survey. See Graduating Student Exit Survey page https://gradschool.unc.edu/about/data/exit (https://gradschool.unc.edu/about/data/exit/)/.

Program Milestones

Master's Professional Work Experience	Professional Work Experience, Practicum, Internship; student participates in field-related practicum, internship, or professional work experience for the number of hours as defined by program requirements.
Master's Prospectus Meeting	Meeting between student and director of graduate studies to propose capstone project and set master's committee prior to any exams.
Master's IRB Compliance	Student completes IRB training and verifies compliance with program requirements
Master's Competency Review	Review reflects the mastery of one or multiple research skills that are generally determined by the student and master's committee. Program details may differ; please consult your program handbook for more information.
Master's Intradepartmental Review	Internal program meeting with student to ensure student is on track with completion of program requirements and is receiving adequate departmental support. The program may use this meeting to cover competencies and/or research skills (e.g., scientific writing, statistical computing).

Master's Research Presentation	Student presents their research as required by the program. Program details may differ; please consult your program handbook for more information.
Master's Research Experience	Student participates in field-related, sustained research activities for the number of hours as defined by program requirements.

Doctoral Degree

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 Additional details can be found on the Graduate
 Handbook's Doctoral Degree Requirements (https://
handbook.unc.edu/phd.html) page.  Please consult the program's
 website to see which milestones apply.
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Graduate School Milestones

Doctoral Committee	Members of the student's doctoral committee, including a faculty research advisor and chair, have been approved by the academic program and The Graduate School. See Dissertation Requirements section.
Doctoral Oral Comprehensive Exam	Student has successfully completed a comprehensive oral exam. See Examination section.
Doctoral Written Exam	Student has successfully completed a first (or core) written exam, typically a comprehensive exam taken after completing coursework. See Examination section.
Doctoral Written Exam 2	Student has successfully completed a second (or specialty) comprehensive written exam. See Examination section.
Prospectus Oral Exam	Student has completed an oral exam of their prospectus; their committee has judged the dissertation project proposal to be feasible and research may begin. See Dissertation Requirements section.
Foreign Language	Student has satisfied language requirement(s) if required by the program. See Foreign Language or Research Requirement section.
Advanced to Candidacy	Student has passed both the doctoral oral and written comprehensive examinations, completed all coursework required by the programs of the major and minor(s), and have met any foreign language requirements; the only outstanding requirement for degree completion is the dissertation. Transcripts for students admitted to candidacy will contain the statement "Advanced to Candidacy for Doctorate" at the end of the term in which posted. See Graduate Handbook - Doctoral Degree section.
Dissertation Defense	Student has completed the oral defense of the dissertation. See Examination section.
Doctoral Dissertation Approved/ Format Accepted	Student has submitted their approved dissertation, including revisions following its defense. See Dissertation Requirements section.
Residence Credit	Student has completed the minimum program residence credit of four semesters either by full-time registration or by part-time registration over several semesters. See Credit and Residence Requirements section.
Doctoral Exit Survey	Student has provided feedback on graduate education quality and experiences by completing the graduating student exit survey. See Graduating Student Exit Survey page https://gradschool.unc.edu/about/data/exit (https://gradschool.unc.edu/about/data/exit/)/.

Program Milestones

Doctoral Professional Work Experience	Professional Work Experience, Practicum, Internship; Student participates in field-related practicum, internship, or professional work experience for the number of hours as defined by program requirements. Program details may differ; please consult your program handbook for more information.
Doctoral Practicum Paper	Following a doctoral professional work experience or practicum, a separate practicum reflection paper is required.
Doctoral Reflection Paper	Leadership Paper; Students are required to write a reflection paper. Program details may differ; please consult your program handbook for more information.

Doctoral Teaching Experience	Student participates in teaching a course as an assistant or instructor of record.
Doctoral Manuscript Submission	Student is required to submit an article for publication.
Doctoral Research Experience	Student participates in field-related, sustained research activities for the number of hours as defined by program requirements.
Doctoral Intradepartmental Review	Internal program meeting with student to ensure student is on track with completion of program requirements and is receiving adequate departmental support. The program may use this meeting to cover competencies and/or research skills (e.g., scientific writing, statistical computing).
Doctoral IRB Compliance	Student completes IRB training and verifies compliance with program requirements.
Doctoral Preparatory Committee Review	Meeting of student's committee with student in preparation for milestones such as final dissertation defense or comprehensive exam (Comprehensive Exam Memo); may include goals such as presentation of research and progress to receive consultation prior to completing the research process or a document that reflects preparation for the comprehensive exam. Program details may differ; please consult your program handbook for more information.
Doctoral Competency Review	Review reflects the mastery of one or multiple research skills that are generally determined by the student and dissertation committee. Program details may differ; please consult your program handbook for more information.
Doctoral Research Presentation	Student presents their research as required by the program. Program details may differ; please consult your program handbook for more information.
Doctoral Advisor Finalization	Student has confirmed advisor with program and advisor.
Doctoral Program Finalization	Student has confirmed doctoral program with BBSP advisor and program.
Doctoral Ethics Requirement	Student has completed the doctoral ethics requirement.

SCHOOLS AND DEPARTMENTS

Welcome! On the left navigation bar are links to The Graduate School's graduate programs. Included in each section is information about degrees offered, contact information, and specifics about admission and degree requirements.

ACADEMIC RESOURCES

Libraries

The University Libraries

- Library hours (http://library.unc.edu/hours/)
- Ask a question (http://library.unc.edu/ask/)

The University Libraries is your intellectual and creative partner at Carolina. Library collections, spaces, resources, and expertise can advance your vision and help you achieve your learning, teaching, clinical, expressive, and engagement goals.

With 10 million print and electronic volumes, thousands of journal titles, expansive archives, rich data sets, and much more, the University Libraries provides one of the most important library collections in the South. Collections cover every discipline taught at the University.

You may use and visit any location in the University Libraries system (https://library.unc.edu/hours/). Your OneCard is your library card and your ONYEN is your key to unlocking online resources when you are not on campus.

Among services of particular interest to graduate students are the following:

- Liaison librarians (https://guides.lib.unc.edu/sb.php) – Subject-specialist librarians are your guide to research and collections in your field. Reach out to a liaison librarian for a library overview, research questions, collection inquiries, and teaching information skills.
- Digital research and data services (https://library.unc.edu/data/) – Integrate GIS, mapping, data analysis, 3D printing, making, and more into your research or teaching.
- Interlibrary loan (https://library.unc.edu/ils/) – The University Libraries will gladly obtain articles and books for you from other libraries when they are not part of the collections here.
- Media and Design Center (https://library.unc.edu/house/mdc/) – Borrow equipment, screen a film, and add multimedia assignments to class projects.
- Carrels (https://library.unc.edu/davis/graduatecarrels/) – A limited number of graduate carrels is available in Davis Library, with priority being given to Ph.D. candidates writing dissertations.

CERTIFICATE PROGRAMS

The University is authorized to award bachelor's, master's, doctoral, and professional degrees. Selected certificates are approved at the undergraduate, graduate, and professional levels. The University does not award any credential below a bachelor's degree credential, and any approved undergraduate certificate must be awarded in conjunction with a bachelor's degree

A certificate program is a formal program of courses and other related experiences in a field of specialization. In some disciplines, a certificate is akin to a professional credential, while in others, a certificate is recognition of competence in a given skill, practice, or field of study. Like an academic degree, a certificate program is offered by a host academic school, department, or curriculum and is related to an academic area of study. It carries academic credit. The campus encourages interdisciplinary and interinstitutional certificate programs where appropriate. All certificate programs that award academic credit, regardless of intended audience, are governed within The Graduate School through policies set forth by the Office of the Provost. Additional information and an official listing of current certificate programs are available on The Graduate School's website (https://gradschool.unc.edu/facultystaff/program-development/certificates.html).

1. How to Apply

1. Apply for admission to graduate certificate programs online.
2. https://applynow.unc.edu/apply/
3. To begin your application, you must first create an account. Use your newly created account to log into the application form.
   a. Start a new application.
   b. Select "Certificate"
   c. Click "Create Application"
   d. Open the application.
   e. In the dropdown box under "Select a Program," choose the graduate certificate you plan to apply for.
   f. If you claim to be a North Carolina resident for tuition purposes, you must fill out an additional form.

2. Residency Requirements

1. Your residency for tuition purposes determines your in-state or out-of-state status and will impact your tuition.
2. If you are claiming North Carolina residency, you will need to submit a residency application with the North Carolina Residency Determination Service (RDS) (https://ncresidency.cfnc.org/residencyInfo/). RDS will provide you with a Residency Certification Number (RCN), which you will enter in your application for registration.
3. Complete your residency application as soon as possible. You do not need to wait until you have registered for a course.
   a. North Carolina residency for tuition purposes is governed by North Carolina state law. More information can be found on the RDS website (https://ncresidency.cfnc.org/residencyInfo/).
   b. If you have met the eligibility requirements for the certificate program, you will be notified of your acceptance into the program.

3. Application Fee

1. The application fee for current UNC students is $45; the application fee for new students is $90. Please note that a $100 enrollment deposit is required before registering for classes.

4. Employee Waivers

1. Please note that employees of the UNC System must submit the fee waiver prior to submitting the application; we are not able to refund any paid fees. This form (https://catalog.unc.edu/graduate/certificate-programs/chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https:/gradschool.unc.edu/pdf/feewaiver.pdf) is to be used only by full time, permanent employees of the University of North Carolina at Chapel Hill to request a waiver of the Graduate Admission Application fee. This waiver must be submitted to the Graduate School with the signature of a central UNC-CH Human Resources Benefits Representative. (Send form to benefits@unc.edu for approved signature).

A

- Ambulatory Care Scholars Certificate (p. 33)
- Applied Data Science Certificate (p. 33)

B

- Business of Healthcare Certificate (p. 33)

D

- Digital Communication Strategy Certificate (p. 34)
- Digital Media Management Certificate (p. 34)
- Digital Storytelling Certificate (p. 34)

H

- Healthcare Management Certificate (p. 35)

I

- Innovation, Leadership, and Management Certificate (p. 35)

L

- Leadership Academy Certificate (p. 35)

P

- Pre-Health Post-Baccalaureate Certificate (p. 36)

R

- Rural Pharmacy Health Certificate (p. 36)

S

- Survey Science Certificate (p. 37)

T

- Total Worker Health Certificate (p. 37)

Ambulatory Care Scholars Certificate

Overview

The Ambulatory Care Certificate at UNC Eshelman School of Pharmacy Asheville Campus provides a unique opportunity for student pharmacists to learn how to develop new ambulatory care services during their Doctor of Pharmacy training. Key components of the Ambulatory Care Certificate include a robust curriculum, a mentoring program, professional advocacy, and interprofessional education. Certificate courses will focus on foundations of ambulatory care, special populations in ambulatory care, and developing and sustaining services that will serve as a strong foundation for pursuing careers and postgraduate programs in outpatient settings. The nine-credit hour certificate will consist of four required courses, which includes a capstone project, and a minimum of one (1) ambulatory care-focused elective.

Course Requirements

Code	Title	Hours
Core Courses		
PHCY 851	Foundations in Ambulatory Care	2
PHCY 852	Ambulatory Care Services I	1.5
PHCY 853	Ambulatory Care Pharmacy Services II	1.5
PHCY 854	Ambulatory Care Capstone Course	2
Electives		
2 minimum credit hours of elective courses are required from the list below.		2
Minimum Hours		**9**

Code	Title	Hours
Pharmacy Elective Course Options		
PHCY 800	Geriatric Pharmacy Practice	3
PHCY 804	Travel Medicine Care	1.5
PHCY 807	Veterinary Pharmacotherapy	3
PHCY 810	The Science of Pharmaceutical Compounding	1
PHCY 811	Infectious Diseases	1.50
PHCY 812	Pediatric Pharmacotherapy	1.50
PHCY 813	Clinical Toxicology	1.5
PHCY 814	Disaster Preparedness and Emergency Care	1.5
PHCY 821	Contemporary and Applied Communications in Healthcare	1.5
PHCY 822	Hematology/Oncology Pharmacotherapy	3
PHCY 824	Solid Organ Transplantation Pharmacy Practice	1.5
PHCY 832	Innovations in Community-Based Pharmacy Practice	1.5
PHCY 833	Advanced Cardiovascular Pharmacy	1.5
PHCY 836	Prevention, Treatment, and Recovery of Substance Use Disorders	1.50
PHCY 837	Pharmacogenetics	1.5
PHCY 840	Health Policy and Managed Care	3
PHCY 846	Perspectives in Mental Health	2

Applied Data Science Certificate

Overview

This program delivers hands-on experience through real-world projects, giving you the confidence to apply data science in any field. Whether you're looking to boost your career or explore new opportunities, the Applied Data Science Certificate equips you with essential tools and methods, with a strong focus on workplace application.

Course Requirements

Code	Title	Hours
INLS 761	Data Analysis	1.5
INLS 772	Applied Statistics, Machine Learning, & Data Communication	3
INLS 773	Database for Data Science	1.5
INLS 774	Applied Data Ethics	1.5
INLS 775	Applied Data Curation and Management	1.5
INLS 792	Applied Data Science Practicum	3
Minimum Hours		**12**

Business of Healthcare Certificate

Overview

All students will also have completed two prerequisite/co-requisite courses within the PharmD curriculum, which include PHCY 609: The US Healthcare System (2 credit hours) and PHCY 619: Business of Healthcare: Focus on the Pharmacy Enterprise (2 credit hours).

Course Requirements

Code	Title	Hours
Core Courses		
PHCY 825	Business of Health Care Seminar	1.5
PHCY 826	Business of Health Care Seminar II	1.5
PHCY 827	Business of Health Care Seminar III	2
Electives		
4 minimum credit hours of elective courses are required from the list below.		4
Minimum Hours		**9**

Code	Title	Hours
Electives		
PHCY 815	Data Science in Pharmacy	1
PHCY 817	Making Medicine: The Process of Drug Development	1.5
PHCY 832	Innovations in Community-Based Pharmacy Practice	1.5
PHCY 840	Health Policy and Managed Care	3
PHCY 850	Pharmacy Internship and Career Development	1.5
PACE 820	Health-System Pharmacy Leadership	3
PHRS 701	Fundamentals of Regulatory Affairs	2
PHRS 702	Preclinical Development	2
PHRS 703	Chemistry, Manufacturing, and Controls	2
PHRS 704	Clinical Development	2
PHRS 711	Emerging Topics in Regulatory Science	2

Digital Communication Strategy Certificate

Overview

This certificate, delivered part-time and online, is designed to help working communication professionals consider what communication initiatives an organization should pursue and why. The courses, listed below, are part of the Digital Communication Master's Curriculum. Key concepts include audiences, data, strategy, planning and analytics.

This is one of three graduate certificates offered by the Hussman School of Journalism and Media. The others are the Digital Media Management Certificate (p. 34) and the Digital Storytelling Certificate (p. 34). Students can take one course per term and complete a certificate in one year. Certificate courses allow students to try out online learning before committing to a full degree program and, if they later transfer to the master's program, lighten their course loads for part of their time in the degree program.

Eligibility

Graduate certificates and certificate courses from the Hussman School of Journalism and Media are open to students in UNC-Chapel Hill degree programs and non-degree students. Enrollment requires three years of professional experience in communications-related roles. Students interested in taking a certificate course who have not been admitted to the certificate program should contact grad@hussman.unc.edu to confirm their professional experience and request permission to enroll.

Credit Transfer to Master's

Admitted online master's students can transfer credit for up to three certificate courses (9 hours) toward the degree program. They complete the same application as other applicants but may seek recommendation letters from certificate instructors and highlight in application materials their successes in the certificate program. Certificate students and graduates are not automatically admitted to the master's program.

Course Requirements

Code	Title	Hours
MEJO 710	Psychology of Audiences	3
MEJO 713	Media Analytics	3
MEJO 720	Communication Strategy and Planning	3
Minimum Hours		**9**

Digital Media Management Certificate

Overview

This certificate, delivered part-time and online, is designed to help working communication professionals who want to move into management roles or become better managers. The courses, listed below, are part of the Digital Communication Master's Curriculum. Key concepts include leadership, business models and brand images.

This is one of three graduate certificates offered by the Hussman School of Journalism and Media. The others are the Digital Communication Strategy Certificate (p. 34) and the Digital Storytelling Certificate (p. 34). Students can take one course per term and complete a certificate in one year. Certificate courses allow students to try out online learning before committing to a full degree program and, if they later transfer to the master's program, lighten their course loads for part of their time in the degree program.

Eligibility

Graduate certificates and certificate courses from the Hussman School of Journalism and Media are open to students in UNC-Chapel Hill degree programs and non-degree students. Enrollment requires three years of professional experience in communications-related roles. Students interested in taking a certificate course who have not been admitted to the certificate program should contact grad@hussman.unc.edu to confirm their professional experience and request permission to enroll.

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Course Requirements

Code	Title	Hours
MEJO 719	Leadership and Entrepreneurship	3
MEJO 722	The Business of Media	3
MEJO 724	Reputation Management	3
Minimum Hours		**9**

Digital Storytelling Certificate

Overview

This certificate, delivered part-time and online, is designed to help working communication professionals build and improve skills in digital content creation. The courses, listed below, are part of the Digital Communication Master's Curriculum. Key concepts include creating stories and products across platforms, visual literacy, design thinking and user-experience (testing and design).

This is one of three graduate certificates offered by the Hussman School of Journalism and Media. The others are the Digital Communication Strategy Certificate (p. 34) and Digital Media Management Certificate (p. 34). Students can take one course per term and complete a certificate in one year. Certificate courses allow students to try out online learning before committing to a full degree program and, if they later transfer to the master's program, lighten their course loads for part of their time in the degree program.

Eligibility

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Credit Transfer to Master's

Admitted online master's students can transfer credit for up to three certificate courses (9 hours) toward the degree program. They complete the same application as other applicants but may seek recommendation letters from certificate instructors and highlight in application materials their successes in the certificate program. Certificate students and graduates are not automatically admitted to the master's program.

Course Requirements

Code	Title	Hours
MEJO 711	Multi-platform Storytelling	3
MEJO 723	Visual Literacy and User Experience	3
MEJO 725	Media Innovation in Practice	3
Minimum Hours		**9**

Healthcare Management Certificate

Overview

The certificate is an 11-credit program over 12-15 months (one course per semester) that provides core health management competencies for emerging healthcare leaders. Participants will develop skills in understanding, measuring, and leading successful healthcare units at levels appropriate to their career stage. For those without previous Master's level training, certificates may also meet core requirements for the Residential or Executive Masters of Health Administration in Health Policy and Management.

Course Requirements

Code	Title	Hours
HPM 728	Leadership and Workforce Management Strategies	4
HPM 753	Health Care in the United States: Structure and Policy	4
One of the following:		3
HPM 710	Health Law	
HPM 748	Economic Principles, Health Insurance & Behavioral Economics in Health	
HPM 760	Healthcare Quality and Information Management	
HPM 776 & HPM 777	Healthcare Quality and Information Management and Health Information and Quality Applications	
Minimum Hours		**11**

Innovation, Leadership, and Management Certificate

Overview

The Graduate Certificate in Innovation, Leadership and Management emphasizes innovation and commercialization, as well as workplace leadership and management principles.

This certificate offers several features, including:

- Skill development in areas highly valued by companies, nonprofits, and government units.
- Opportunities to complete work experiences relevant to the needs of employers.
- A customizable curriculum that includes three credits of innovation courses, three credits of leadership courses, and three credits of management courses.

Course Requirements

Code	Title	Hours
Leadership (3 total credit hours from this section)		3
GRAD 717	Introduction to Entrepreneurship and The Entrepreneurial Mindset	
GRAD 718	Start the Startup: Bringing Ideas to Market	
GRAD 755	Fundamentals of Technology Commercialization	
GRAD 756	Research to Revenue - University Startups	
Innovation (3 total credit hours from this section)		3
GRAD 712	Leadership in the Workplace	
GRAD 715	Business Communication	
GRAD 725	Build Your Professional Brand: Develop Job Search Skills and Materials to Make Employers Notice You	
GRAD 727	Team Collaboration	
Management (3 total credit hours from this section)		3
GRAD 713	Applied Project Management: Frameworks, Principles and Techniques	
GRAD 714	Introduction to Financial Accounting	
GRAD 726	Executive Perspective: Business Fundamentals	
GRAD 758	Managing People and Professional Relationships	
GRAD 770	Executive Perspective: The Digital Revolution and its Impact on Business	
Minimum Hours		**9**

Leadership Academy Certificate

Overview

The Leadership Academy Certificate (https://onlinemba.unc.edu/academics/leadership-academy-certificate/) at UNC Kenan-Flagler's MBA@UNC program is designed for high achievers aiming to excel in senior-level roles across various industries. This specialization builds upon the core MBA curriculum, focusing on developing crucial people management skills and leadership competencies. Students learn to maximize team effectiveness, drive results, empower others, and make strategic decisions. The Leadership Academy Certificate allows our students to embark on a transformative leadership journey and drive meaningful impact at the MBA@UNC Program. Rooted in our four core values - Impact, Innovation, Inclusion, and Integrity - the Leadership Academy Certificate program is designed to equip students with the essential competencies that define effective leaders in today's dynamic business landscape.

Course Requirements

Code	Title	Hours
Students may complete any combination of the following courses:		
MBA 802B	Responsible Leadership	
MBA 803T	Storytelling to Influence and Inspire	
MBA 804D	Leading Diverse & Inclusive Organizations	
MBA 822B	Negotiating through Difference	
MBA 823A	Leading in the Middle I	
MBA 823B	Leading in the Middle II	
MBA 840	Managerial Decision Making	

MBA 892	MBA@UNC Global Immersion Experience (Summit Track: Personal Leadership)	
MBA 892	MBA@UNC Global Immersion Experience (Summit Track: Team Leadership)	
MBA 892	MBA@UNC Global Immersion Experience (Summit Track: Organizational Belonging)	
Minimum Hours		**10**

Pre-Health Post-Baccalaureate Certificate

Overview

The University of North Carolina at Chapel Hill offers a Pre-Health Post-Baccalaureate Certificate to help students prepare for advanced study or employment in the health professions. This certificate is sponsored by the Department of Biology and administered by The Graduate School..

Please note: This certificate will no longer be admitting students after Fall 2025.

Course Requirements

Code	Title	Hours
To earn the certificate, students will need to complete a minimum of five courses in math or science with a grade of B or higher in each course (STEM courses with labs are considered a single course, for the lab is a co-requisite of the course). Students' course work will begin once they have been accepted to the certificate program; no transfer credit of courses is permitted. Students can repeat a course, but it will only count once towards the five required courses. Students will work with a Graduate School admissions and enrollments specialist to select the courses that are appropriate to their goals. As long as the courses are in the science and math areas, there are no specific courses required to earn the Certificate. In addition to working with an adviser, students should also check the requirements of the health profession program or position in which they are interested to determine which courses are required or preferred. Pre-health Certificate students are limited to a maximum of twelve credit hours per semester.		
Minimum Hours		**15**

Rural Pharmacy Health Certificate

Overview

The Rural Pharmacy Health Certificate Program is a focused program of study that prepares student pharmacists for collaborative, interprofessional practices that serve the health care needs of North Carolinians living in rural and small communities. This concentration within the Doctor of Pharmacy (Pharm.D.) degree is ideal for individuals who want to live and practice in rural areas and small towns. The UNC Eshelman School of Pharmacy offers this unique experience as part of the School's commitment to increasing the number of pharmacists practicing in rural and medically underserved areas across North Carolina.

Course Requirements

Code	Title	Hours
Core Courses		
PHCY 841	Rural Pharmacy Health 1: Introduction to Rural Pharmacy Practice	1.5
PHCY 842	Rural Pharmacy Health 2: Cultural Responsiveness in Rural Health	1.5
PHCY 843	Rural Pharmacy Health 3: Interprofessional Practice	1.5
PHCY 844	Rural Pharmacy Health 4: Population Health Management	1.5
Electives		
Completion of 2 electives pertinent to Rural Health		3-6
Minimum Hours		**9**

Non-Course Requirements

Code	Title	Hours
Experiential Rural Requirements		
One early immersion experience in a rural site or rural focus area		8
Three advanced immersion experiences in a rural site or rural focus area		9

Column 1	Column 2
Semester	**Community and Continuity Site Requirements**
Fall PY2	Continuity Site Mentoring x 2 ~ 6 hours
	Community Service - 10 hours
	Community Outreach Activity
Spring PY2	Continuity Site Mentoring x 2 ~ 6 hours
	Community Service - 10 hours
Fall PY3	Continuity Site Mentoring x 2 ~ 6 hours
	Community Service - 10 hours
Spring PY3	Continuity Site Mentoring x 2 ~ 6 hours
	Community Service - 10 hours
Spring PY2 / Fall PY3 / Spring PY3	A minimum of 2 electives with topics pertinent to rural health, as determined by the Director, must be completed.
Spring PY3	Project Implementation
	Complete IRB
PY4 year	Submit for presentation - abstract/ podium (Director of Rural Health offers project support throughout)

Column 1	Column 2
Semester	**Community and Experiential Notes**
PY2 and PY3 years	Course Director works with Office of Experiential Education to identify rural sites.
PY4 year	Course Director works with Office of Experiential Education to identify rural sites.

PY4 year	In addition to project work, Community Service - 10 hours

Survey Science Certificate

Overview

The Odum Institute's graduate Certificate in Survey Science (CSS) teaches students and working professionals specialized skills in survey design, data collection methods, data analysis and reporting. Fully online, the 12-hour program is designed for people wanting to strengthen their research capabilities while gaining practical skills in survey science. Applying knowledge and skills gained from the CSS helps graduates pursue employment and advance careers not only within survey research but in a variety of fields such as the social sciences, business, data science, public health, education, social work, journalism, political science, and public administration.

Course Requirements

Code	Title	Hours
Core Courses		
Three required semester courses		9
SOCI 761	Questionnaire Design [1]	
or POLI 861	Questionnaire Design	
or PLAN 731	Questionnaire Design	
SOCI 760	Data Collection Methods [2]	
or POLI 860	Data Collection Methods	
or PLAN 730	Data Collection Methods	
SOCI 754	Survey Sampling [3]	
Electives		
One elective semester course of choice that focuses on survey science, research methodology, or data science. Choose from electives list below.		3
Minimum Hours		**12**

1 Every Spring.
2 Every Fall. Note: This course will be offered Spring 2025.
3 Spring (even-numbered years).

Code	Title	Hours
Electives		
ANTH 725	Quantitative Methods in Anthropology	3
BIOS 662	Intermediate Statistical Methods	4
BIOS 665	Analysis of Categorical Data	3
BIOS 667	Applied Longitudinal Data Analysis	3
BIOS 668	Design of Public Health Studies	3
BIOS 670	Demographic Techniques I	3
BIOS 764	Advanced Survey Sampling Methods	3
BUSI 808	Applied Research Methods I	3
BUSI 867	Issues in the Design and Analysis of Research in Marketing	3
EDUC 785	Program Evaluation in Education	3
EDUC 817	Introduction to Educational Research	3
EDUC 824	Fundamentals of Educational Research	3
EDUC 830	Qualitative Research Methods I: Philosophical Foundations of Qualitative Research	3
EPID 726	Epidemiologic Research Methods	3
HBEH 753	Qualitative Methods in Health Behavior	3
HBEH 763	Scale Development Methods	3
INLS 509	Information Retrieval	3
INLS 719	Usability Testing and Evaluation	3
MHCH 713	Research Methods in Maternal and Child Health	3
MHCH 862	Program Impact Evaluation	3
PLAN 800	Research Design	3
PLCY 801	Design of Policy-Oriented Research	3
POLI 880	Design and Analysis of Experiments and Surveys	3
SOCI 707	Measurement and Data Collection	3

Non-Course Requirements

- Work Experience Requirement:

  To receive the Certificate, students must demonstrate a **minimum of 40 hours** of supervised work experience related to some aspect(s) of survey operations.
  This work experience must be:

  - Under the mentorship or supervision of a faculty member or trained survey professional.
  - Related to survey design/preparation, data collection, sampling, data processing or other survey activities that have been approved by the CSS program director.
  - Documented in a letter from the mentoring faculty member, supervisor or employer. The letter should describe the nature of the work experience and verify that student devoted at least 40 hours to activities related to survey operations.

  Students with the requisite work experience need only provide the required documentation to fulfill this requirement. Students without 40 hours of survey operations experience may make their own arrangements to obtain it, but should seek pre-approval from the CSS program director to ensure the experiences will satisfy the Certificate requirement. When needed, the Certificate program staff will arrange an unpaid assignment for the student totaling 40 hours of work in survey operations at UNC or a partnering organization. For details on submitting documentation of work experience, see the Work Experience Information Sheet.

- Short courses in survey science of choice (28 hours).

Total Worker Health Certificate

Overview

The goal of our Total Worker Health Certificate Program is to train students from diverse disciplines to work effectively together to protect and promote workers' health. Our graduates emerge with a common language to discuss the key determinants of health encountered at work. As Total Worker Health (TWH) practitioners, they will be equipped to act on these determinants by planning, implementing, and evaluating comprehensive workplace interventions as part of an interdisciplinary team.

Course Requirements

Code	Title	Hours
ENVR 795	Critical issues in work, worker and workplace health	3.0

or HBEH 785	Critical issues in work, worker and workplace health	
HBEH 786	Essential Methods for Evaluating Worker and Workplace Health	3.0
HBEH 787	Planning, Implementing and Evaluating Total Worker Health Interventions (Minimum Hours)	3.0
Minimum Hours		**9**

Non-Course Requirements

- Trainees also must attend four NORA Interdisciplinary Seminars. Seminars span a range of worker-health protection and promotion topics and disciplines, are archived online, and occur quarterly.

DEPARTMENT OF AFRICAN, AFRICAN-AMERICAN, AND DIASPORA STUDIES (GRAD)

The Department of African, African American, and Diaspora Studies offers M.A. and Ph.D. degrees in Africana studies, as well as a graduate minor in this field.

The department's geographical breadth covers Africa, North America, South America, and the Caribbean, and the disciplinary diversity of our faculty encompasses history, anthropology, political science, literature, ethnomusicology, performance and dance, and other fields. These specializations inform the tracks and concentrations of our new (fall 2025) graduate program. Additionally, the department has a long-standing and highly regarded language program that currently offers elementary, intermediate, and advanced language instruction in Swahili and Wolof. We began offering our first courses in Yoruba in spring 2022.

Our approach to graduate training bridges historical separations between African Studies and African American/Diaspora Studies and unites those fields within intellectual and methodological frameworks that focus on the experience and the agency of peoples of African descent in the modern world from a historical, cultural, and comparative perspective in general, and with respect to the impact of globalization on Africa and the African diaspora in particular. As such, we also aim to address major gaps in current studies of the global experiences of people of African descent.

Upon entry into the M.A. or Ph.D. program, students will be initially admitted into one of the following major geographic fields: (1) Africa, (2) African America, or (3) African Diaspora (non-North America). For the purpose of deepening the major geographic field with multi-disciplinary and content-specific study, students—in consultation with their primary advisor and by the end of their third semester of enrollment—will also declare two major thematic concentrations within the major geographic field. The options include: (1) Literary Studies and Cultural Production; (2) Gender, Sexuality, and Feminism; (3) Development, Public Policy, and Social Change; and (4) Histories and Africana Critical Theory. Further, by the end of the third semester of enrollment, each student will select a minor geographic field to complement their major geographic field. Students may take any configuration of courses in the minor geographic field to fulfill degree requirements and are not required to declare a thematic concentration in the minor geographic field. The selection of the two major thematic concentrations within the major geographic field and the choice of minor geographic field should be informed by coursework taken in these areas.

Professors

Claude A. Clegg III
Kenneth Janken
Michael Lambert
LeRhonda Manigault-Bryant

Associate Professors

Lydia Boyd
Brandi Brimmer
David Pier
Charlene Regester
Eunice Sahle

Assistant Professors

Maya Berry
Shakirah Hudani
Nadia Mosquera Muriel
Petal Samuel

Teaching Associate Professors

Joseph Jordan
Mohamed Mwamzandi

Teaching Assistant Professors

Raphael Birya
Samba Camara
Alicia Monroe
Robert Porter

Adjunct Faculty

Fenaba Addo, Associate Professor, Public Policy
Anna Agbe-Davies, Associate Professor, Anthropology
Renée Alexander Craft, Professor, Communication
Lisa Calvente, Assistant Professor, Communication
Youssef Carter, Assistant Professor, Religious Studies
Christopher Clark, Associate Professor, Political Science
Shannon Malone Gonzalez, Assistant Professor, Sociology
Sudhanshu Handa, Eminent Professor, Public Policy
Taylor Hargrove, Assistant Professor, Sociology
Sherick Hughes, Distinguished Professor, Education
Lauren Jarvis, Assistant Professor, History
Priscilla Layne, Associate Professor, Germanic and Slavic Languages
Lisa Lindsay, Professor, History
Todd Ochoa, Associate Professor, Religious Studies
Chaitra Powell, Curator, Southern Historical Collection
Danielle Purifoy, Assistant Professor, Geography
Antonia Randolph, Assistant Professor, American Studies
Victoria Rovine, Professor, Art
Tanya Shields, Associate Professor, Women's and Gender Studies
Karla Slocum, Professor, Anthropology
Michael Terry, Associate Professor, Linguistics

Courses

AAAD-Africa, African American, and Diaspora Studies

The department has adopted the following numbering system for all AAAD courses numbered above 99:

- Courses ending in 00 to 29: African studies
- Courses ending in 30 to 59: African American studies
- Courses ending in 60 to 84: African Diaspora outside the United States
- Courses ending in 85 to 99: Courses that cross geography; dedicated courses whose numbers are reserved by the University Registrar, such as independent studies and internships.

Advanced Undergraduate and Graduate-level Courses

AAAD 400. Contemporary African Politics. 3 Credits.
This upper level seminar examines contemporary African politics with a focus on political trends in the post-1990s period.

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL.
Grading Status: Letter grade.

AAAD 401. Poverty, Health, and Human Development in Low Income Countries. 3 Credits.
This course provides an understanding of how poverty is defined, the consequences of poverty, and policies to reduce poverty. It explores the determinants of human development outcomes from an interdisciplinary perspective (with a heavy economics focus).

Rules & Requirements
Requisites: Prerequisite, ECON 101.
Grading Status: Letter grade.
Same as: PLCY 485.

AAAD 402. African Media and Film: History and Practice. 3 Credits.
This course explores forms of filmic and photographic representation of and by Africans. An introduction to key concepts in social theory and their application to the field of media studies and ethnography is a primary focus.

Rules & Requirements
Grading Status: Letter grade.

AAAD 403. Human Rights: Theories and Practices in Africa. 3 Credits.
This course explores major conceptual debates in the field of human rights. Further, it examines human rights practices and struggles in selected countries in Africa.

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL.
Grading Status: Letter grade.

AAAD 404. Music of African Diasporas. 3 Credits.
An exploration of musical articulations of African diasporic identity focusing on aesthetics, social fields of production, and the historical development of the diaspora concept around music.

Rules & Requirements
Grading Status: Letter grade.

AAAD 405. Contemporary African Art. 3 Credits.
Examines modern and contemporary African art (1940s to the present) for Africans on the continent and abroad. Examines tradition, cultural heritage, colonialism, postcolonialism, local versus global, nationalism, gender, identity, diaspora.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH.
Requisites: Prerequisite, AAAD 101 or ARTH 152 or 155; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Same as: ARTH 488.

AAAD 410. Gender, Sexuality, and Development in Contemporary Africa. 3 Credits.
This upper-level seminar focuses on debates in international development studies exploring theories and policies of development, particularly those pertaining to gender, sexuality, masculinities, and women's political agency in contemporary Africa.

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL or FC-POWER.
Grading Status: Letter grade.

AAAD 414. Senegalese Society and Culture. 3 Credits.
This course provides an overview of Senegalese society and culture through film, literary works, and scholarly books and articles. The course examines the geography, population, religious beliefs, visual culture, popular music, and gender discourses in Senegalese contexts.

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL or FC-KNOWING.
Grading Status: Letter grade.

AAAD 419. Pan-Africanism and Radical Black Internationalism. 3 Credits.
This course will equip students to critically analyze key issues in African and African diaspora socio-cultural and political thought through readings, lectures, film and assigned research.

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL.
Grading Status: Letter grade.
Global Language: Level 1.

AAAD 421. Introduction to the Languages of Africa. 3 Credits.
This course is an introduction to the languages of Africa. No linguistics background is required. Topics include classification, characteristic linguistic features of African languages, and their role in their respective societies.

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL or FC-KNOWING.
Grading Status: Letter grade.

AAAD 430. African American Intellectual History. 3 Credits.
An examination of major intellectual trends in African American life from the 19th to the early 21st century.

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING or FC-PAST.
Grading Status: Letter grade.

AAAD 434. African Studies Intercultural and Swahili Experience. 3 Credits.
This study abroad course introduces students to the art and culture of the East African region, where the Swahili language is spoken most. It applies cultural skills studies and language theories to gain intercultural and interpersonal understanding and increase awareness of African critical issues, including politics, culture, socioeconomic, and education in a multi-ethnic society by engaging with the Pwani University students, the hosting Campus and its environs.

Rules & Requirements
IDEAs in Action Gen Ed: FC-GLOBAL.
Grading Status: Letter grade.

AAAD 444. Race, Ethnicity, and Blackness in Comparative Perspective. 3 Credits.
This course will provide students the opportunity to compare and contrast how race, especially Blackness, and ethnicity are constructed across the globe as well as how race, politics, and policy interact in various countries. We will examine the phenomena of race and ethnicity in the political development of several countries including the U.S., South Africa, France, Australia, Brazil, and several others.

Rules & Requirements
Grading Status: Letter grade.

AAAD 449. Black Women in Cinema: From the Early 1900s to the Present. 3 Credits.
This course interrogates the diverse representations that black women personified on screen, investigates intersections between their off-screen lives and on-screen images, and explores what and how they contributed to the cinema industry. This course is a theoretical, critical, and historical examination of the black woman's cinematic experience.

Rules & Requirements
Grading Status: Letter grade.

AAAD 451. Orality, Literacy, and Cultural Production: African Americans and Racial Modernity. 3 Credits.
Examines the divide between literacy- and orality-based modes of self-expression and cultural production, and the effects of this fault line on the African American struggle for inclusion and self-definition in the United States.

Rules & Requirements
Grading Status: Letter grade.

AAAD 460. Race, Culture, and Politics in Brazil. 3 Credits.
Examines race, culture, and politics in Brazil from historical and contemporary perspectives. Focuses on dynamics of race, gender, class, and nation in shaping Brazilian social relations.

Rules & Requirements
IDEAs in Action Gen Ed: FC-POWER, RESEARCH.
Grading Status: Letter grade.

AAAD 461. Race, Gender, and Activism in Cuba. 3 Credits.
The course is designed to give students a simulated experience of ethnographic fieldwork and qualitative research. Students are led through a learning experience where they will examine black activism in Cuba from historical and contemporary perspectives.

Rules & Requirements
IDEAs in Action Gen Ed: FC-POWER or FC-VALUES.
Grading Status: Letter grade.

AAAD 466. Race and Gender in the Atlantic World. 3 Credits.
This course examines constructions of race and gender in a comparative framework from the fifteenth to the mid-nineteenth century. Students will explore how people across the Atlantic understood visual differences and human diversity in emerging concepts of race. Students will also focus on how inhabitants of Africa, Europe, North America, and South America constructed the category of "woman" and "man" and the constraints and liberties these constructions imposed.

Rules & Requirements
IDEAs in Action Gen Ed: FC-GLOBAL or FC-PAST.
Grading Status: Letter grade.

AAAD 480. Vernacular Traditions in African American Music. 4 Credits.
Explores performance traditions in African American music, tracing development from African song through reels, blues, gospel, and contemporary vernacular expression. Focuses on continuity, creativity, and change within African American aesthetics. Previously offered as FOLK 610/AAAD 432.

Rules & Requirements
IDEAs in Action Gen Ed: FC-AESTH or FC-POWER.
Grading Status: Letter grade.
Same as: FOLK 480.

AAAD 485. Transnational Black Feminist Thought and Practice. 3 Credits.
This course uses social science approaches to explore the development of black feminist thought and activism in diverse cultural and national contexts. Students will gain knowledge of black feminist thought writing and activism in Europe, Latin America, the Caribbean, and the United States.

Rules & Requirements
IDEAs in Action Gen Ed: FC-POWER, RESEARCH.
Grading Status: Letter grade.

AAAD 486. Africa in the American Imagination. 3 Credits.
Examines the ways African art appears in United States popular culture (advertisements, magazines, toys, films, art) to generate meanings about Africa. Addresses intersecting issues of nationalism, multiculturalism, imperialism, nostalgia, and race. Restricted to sophomores, juniors, and seniors.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.
Same as: ARTH 453.

AAAD 487. Intellectual Currents in African and African Diaspora Studies. 3 Credits.
In this seminar students will examine primary documents of engaged scholarship written by Africans and people of African descent in the Americas, Europe, and elsewhere in the African Diaspora.

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL or FC-POWER.
Requisites: Prerequisites, AAAD 101 and 130; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

AAAD 488. Human Rights and Democracy in African Diaspora Communities. 3 Credits.
This course examines how questions of democracy and human rights have been conceptualized in African Diaspora communities in the Americas and Europe.

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL or FC-POWER.
Grading Status: Letter grade.

AAAD 490. Colloquium in African, African American, and Diaspora Studies. 3 Credits.
This course is designed to give students a broad-ranging, interpretative perspective on-and analytical tools for studying-the migration and settlement of African peoples in various parts of the world, largely over the past several centuries. Based on selected secondary readings, students will study and compare the ways in which people of African descent have created political, cultural, and territorial communities in Africa and beyond the continent, especially in the slave and post-emancipation societies of the Americas.

Rules & Requirements
Grading Status: Letter grade.

AAAD 491. Class, Race, and Inequality in America. 3 Credits.
Examines the origins of race in America, the relationship of racial oppression to class struggle at key points in American history, the proliferation of versions of the concept of privilege, and approaches to eliminating class and racial privilege.

Rules & Requirements

IDEAs in Action Gen Ed: FC-PAST or FC-POWER.
Grading Status: Letter grade.

AAAD 492. Urbanism in the Global South. 3 Credits.
This course introduces concepts and themes on the development of urbanism in the "Global South". Students engage with current debates over urbanism in the Global South, including looking at urban inequalities in contemporary cities. Through the course, students will be able to compare and critically analyze formations of contemporary urbanism in selected cities in the Global South from a comparative perspective.

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL.
Grading Status: Letter grade.
Same as: PLAN 576.

AAAD 691H. Honors Research I. 3 Credits.
Permission of the department. Beginning of mentored research on an honors thesis. Required of all candidates for graduation with honors in African, African American, and Diaspora studies.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

AAAD 692H. Honors Research II. 3 Credits.
Permission of the department. Completion of an honors thesis under the direction of a member of the faculty. Required of all candidates for graduation with honors in African, African American, and Diaspora studies.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

AAAD 700. Africana Social Theories. 3 Credits.
This seminar aims to engage with theoretical debates in the field of Africana Studies with a focus on key theoretical approaches to selected thematic issues as they pertain to people of African descent in Africa and the African Diaspora.

Rules & Requirements
Grading Status: Letter grade.

AAAD 701. CULTURES OF COLONIALISM IN THE AFRICANA WORLD. 3 Credits.
Introduction to important scholarship on colonialism in Africa, especially in its cultural manifestations (education, arts, sport, religion, health)

Rules & Requirements
Grading Status: Letter grade.

AAAD 702. Muslim African Cosmopolitanism. 3 Credits.
This interdisciplinary course explores how literature and artistic expression in postcolonial Islamic Africa reflect the histories and politics of multicultural encounter. In addition to reading seminal texts on cosmopolitanism, this course engages students with Muslim African literature, cassette culture, popular music, and film in Muslim Africa. It explores critical issues of religious identity, education, gender, race, epistemology, and the sacred/secular divide in African Islamic contexts and from both an interdisciplinary and cosmopolitan perspective.

Rules & Requirements
Grading Status: Letter grade.

AAAD 703. Professional Development: Teaching and Beyond. 3 Credits.
This seminar pursues professional development through three aims. First, through readings and guided exercises, students are able to implement tools related to the teaching craft with a focus on teaching philosophies and pedagogy, syllabi development, and lesson planning. Second, students will discuss topics related to job placement and professional dynamics within academia, with a particular focus on issues faced by underrepresented faculty. Third, guest lectures curated to student interests.

Rules & Requirements
Grading Status: Letter grade.

AAAD 710. African Activism in the Social Media Era. 3 Credits.
This graduate seminar aims to empower students to critically assess their understanding of race, gender, and social justice, emphasizing strategies for effecting change through community activism and social media. The course entails curated readings, discussions, and analyses of pivotal works on activism, race, gender, and social change in Africa. Students will explore theoretical frameworks and methodologies, culminating in a theory-driven paper on a relevant issue in race, gender, social justice, and social media.

Rules & Requirements
Grading Status: Letter grade.

AAAD 711. Gender and the Political Economy of Development in Africa. 3 Credits.
This seminar explores contemporary debates in the field of International Development Studies (IDS) with a particular focus on those pertaining to gender, masculinities, human rights, and sexuality drawing on empirical developments in Africa.

Rules & Requirements
Grading Status: Letter grade.

AAAD 715. Language and Politics in Africa. 3 Credits.
The African policy makers and institutions have therefore been caught up in a complex language policy and planning problem complicated by a legacy of colonial languages considered superior and advanced. This course explores issues surrounding the politics of language in Africa from the creation of the imagined "nation-states" during colonization to the contemporary issues emanating from the realities of heterogeneous linguistic, ethnic, and cultural nations and continent.

Rules & Requirements
Requisites: Prerequisite, None; Corequisite, None; Pre- or corequisite, None.
Grading Status: Letter grade.

AAAD 731. Crisis and renewal in the American city. 3 Credits.
This graduate-level course is structured as a reading seminar where we will collectively examine significant academic texts on the 'great American city', looking at themes of race, place, class, crisis, and renewal that have attended urbanism, primarily focused on the US. Readings will examine cities that include Detroit, Oakland, Chicago, and Baltimore. Themes include urban de-industrialization and renewal, disinvestment, the politics of activism and power, public housing, and environmental toxicity.

Rules & Requirements
Grading Status: Letter grade.

AAAD 735. Black Southerners. 3 Credits.
The course is designed to offer students a deep historical exploration of the experiences of African Americans in the southern US states from the end of the American Civil War through the twentieth century. Much attention is given to activism, gender, labor, and community formation, as well as the ever-evolving nature of Black identities in the South and the larger nation. Additionally, the course examines the centrality of migration to the African American experience.

Rules & Requirements
Grading Status: Letter grade.

AAAD 740. Womanist/Black Feminist Thought. 3 Credits.
This course explores the genealogy of Black feminist and womanist thought as intersecting theoretical frameworks. We will investigate the expansion of womanist thought from a theologically dominated discourse to a broader category of critical reflection associated with Black feminism, analyze the relationship between the two, and review their historical interventions.

Rules & Requirements
Grading Status: Letter grade.

AAAD 785. Histories of the African Diaspora. 3 Credits.
This course is designed to give students a broad-ranging historical perspective on the migration and settlement of African peoples in various parts of the world, largely over the past three centuries. Based on selected readings, students will study and compare the ways in which people of African descent have created cultural and geographic communities outside of Africa, especially in the pre- and post-emancipation societies of the Americas.

Rules & Requirements
Grading Status: Letter grade.

AAAD 787. Pan Africanism and Contemporary Black Internationalism. 3 Credits.
This course explores key philosophical, theoretical and intellectual aspects of Pan-Africanism and Black Internationalism in the diaspora with emphasis on their expression in the Americas. We emphasize the work of individuals, organizations, and movements and the development of Pan-Africanism beginning with the era of African independence up to the contemporary period. We engage in close readings of texts and identify ideas that shaped Pan-Africanism and Black Internationalism in the last quarter of the 20th century.

Rules & Requirements
Requisites: Prerequisite, completion of one previous course in African American/Diaspora Studies, Latin American Studies, Latina/o Studies or a course in another interdisciplinary or disciplinary area above the introductory level.
Grading Status: Letter grade.

AAAD 790. Black Feminist Ethnography. 3 Credits.
A graduate-level introduction to the renderings of black feminist thought within various modalities of ethnographic practice and representation over time and across the African Diaspora. Explores how black feminists have understood and pushed disciplinary boundaries through their innovations in method and theory. The course centers black feminist contributions to intellectual debates and artistic craft in the social sciences and humanities, often blurring the division between artist and scholar.

Rules & Requirements
Grading Status: Letter grade.

AAAD 800. Africana/Black Studies Methodologies. 3 Credits.
Rather than prescribing a singular approach to Africana/Black Studies research, this graduate-level survey course celebrates the methodological innovations that have deepened our understanding of the modern world through the lens of Black experience. Featured is a selection of representative works by scholars who, in their time, advanced and troubled traditional disciplinary conventions in the social sciences and humanities to create new ways of knowing.

Rules & Requirements
Grading Status: Letter grade.

AAAD 820. Dynamics of Constitutionalism in Africa: National and Regional Scales. 3 Credits.
This seminar introduces students to the study of constitutionalism with a focus on contemporary Africa. It pays particular attention to the implications of constitutional making and remaking to institutional and political arrangements, and practices. Additionally, it explores the effects of constitutional developments to the land question, climate change, gender equality, the protection of human rights, and undercurrents of horizontal and social democratic accountability in terms of modalities of public power.

Rules & Requirements
Grading Status: Letter grade.

AAAD 834. Black Nationalism, Pan-Africanism, and the Making of the Modern World. 3 Credits.
This course examines the historical evolution of Black nationalist and Pan-Africanist ideologies and movements since the late nineteenth century. It is particularly concerned with the persistence of separatist political trends and cultural expressions among people of African descent across the diaspora(s), as well as the emergence and development of continental Pan-Africanism, decolonization movements, and Afro-Caribbean political projects.

Rules & Requirements
Grading Status: Letter grade.

AAAD 870. SOCIAL MOVEMENTS IN THE AFRICANA WORLD. 3 Credits.
This seminar examines historical dynamics of Black social movements in Africa and the African diaspora. The focus is on ideologies and practices of political imagination and organization in different times and places.

Rules & Requirements
Grading Status: Letter grade.

AAAD 882. Health, Reproduction, and Inequality in Africa and the African Diaspora. 3 Credits.
This graduate seminar examines the ways that reproductive healthcare access and health itself are shaped by social, racial, and economic inequalities in our society and others. Of particular interest will be the ways that negotiations over reproduction shed light on broader social conflicts, exposing the importance of centering questions of reproduction in social theory. The geographic focus of this course is Africa and the United States.

Rules & Requirements
Grading Status: Letter grade.

AAAD 886. Enslaved and Free Black Women in the African Diaspora. 3 Credits.
This graduate level course surveys some of the seminal texts that have shaped the study of enslaved and free Black women and girls in the African Diaspora. Throughout the semester, students will explore how enslaved and free Black women's lived experiences disrupt traditional centering of any nation's borders. This course will also explore how feminist methods have both challenged and transformed the study of slavery in pursuit of new narritive frames and distinct archival methods.

Rules & Requirements
Grading Status: Letter grade.

CHWA-Chichewa

Advanced Undergraduate and Graduate-level Courses

CHWA 401. Elementary Chichewa I. 3 Credits.
The course introduces the essential elements of the Chichewa language. Emphasis is on speaking and writing grammatically acceptable Chichewa and on aspects of central African culture.

Rules & Requirements
Grading Status: Letter grade.
Global Language: Level 1.

CHWA 402. Elementary Chichewa II. 3 Credits.
Emphasis is on speaking and writing grammatically acceptable Chichewa to a proficiency level that will enable the student to live among the Chichewa-speaking people of central southern Africa.

Rules & Requirements
Requisites: Prerequisite, CHWA 401.
Grading Status: Letter grade.
Global Language: Level 2.

CHWA 403. Intermediate Chichewa I. 3 Credits.
Continued instruction in Chichewa following the materials introduced in CHWA 401 and 402.

Rules & Requirements
IDEAs in Action Gen Ed: GLBL-LANG.
Requisites: Prerequisite, CHWA 402.
Grading Status: Letter grade.
Global Language: Level 3.

LGLA-Lingala

Advanced Undergraduate and Graduate-level Courses

LGLA 401. Elementary Lingala I. 3 Credits.
Introduces the essential elements of Lingala structure and vocabulary and aspects of African cultures. Aural comprehension, reading, speaking, and writing are stressed.

Rules & Requirements
Grading Status: Letter grade.
Global Language: Level 1.

LGLA 402. Elementary Lingala II. 3 Credits.
Continues the introduction of the essential elements of Lingala structure and vocabulary and aspects of African cultures. Aural comprehension, reading, speaking, and writing are stressed.

Rules & Requirements
IDEAs in Action Gen Ed: FC-GLOBAL.
Requisites: Prerequisite, LGLA 401.
Grading Status: Letter grade.
Global Language: Level 2.

LGLA 403. Intermediate Lingala III. 3 Credits.
This courses increases language learning ability, communicative proficiency, and proficiency in the cultures of the Lingala-speaking people.

Rules & Requirements
IDEAs in Action Gen Ed: GLBL-LANG.
Grading Status: Letter grade.
Global Language: Level 3.

LGLA 404. Intermediate Lingala IV. 3 Credits.
This course reinforces language learning ability, communicative proficiency in the culture of the Lingala-speaking people through gradual exposure to more challenging tasks, with emphasis on poetry and prose reading, and creative writing.

Rules & Requirements
Grading Status: Letter grade.

SWAH-Kiswahili

Advanced Undergraduate and Graduate-level Courses

SWAH 401. Elementary Kiswahili I. 3 Credits.
This course is the first part of Elementary Swahili. Students will be introduced to the basic elements of Standard Swahili language and culture. At the end of this course, students are expected to reach Novice High according to the American Council on the Teaching of Foreign Languages (ACTFL) proficiency guidelines. In addition to Swahili language, students are exposed to topics on socioeconomic issues in East Africa, for example, greetings and social norms, nutrition and housing.

Rules & Requirements
Grading Status: Letter grade.
Global Language: Level 1.

SWAH 402. Elementary Kiswahili II. 3 Credits.
This course is a continuation of Elementary Swahili I. It introduces more advanced grammar, emphasizes more fluency in speaking, reading, and writing in standard Swahili. The course develops students understanding of the Swahili culture and the East African people who use Swahili as the language of wider communication. Students develop an understanding and appreciation of languages and cultures other than their own.

Rules & Requirements
Requisites: Prerequisite, SWAH 401.
Grading Status: Letter grade.
Global Language: Level 2.

SWAH 403. Intermediate Kiswahili III. 3 Credits.
This course is the first part of Intermediate Swahili. Students taking this course are assumed to have taken Swahili Elementary I & II where basic elements of Standard Swahili language and culture are introduced. The course is designed to further help students improve their fluency with emphasis on reading, writing, speaking and listening. Further, students make some comparisons between their cultures and the culture of Swahili speaking people and the East African people in general.

Rules & Requirements
IDEAs in Action Gen Ed: GLBL-LANG.
Requisites: Prerequisite, SWAH 112 or 402.
Grading Status: Letter grade.
Global Language: Level 3.

SWAH 404. Intermediate Kiswahili IV. 3 Credits.
SWAH 404 is designed to further help students improve their fluency with particular emphasis on reading, writing, speaking, and listening. At this level students discuss varied issues in East Africa including state and local government political and economic activities, kinship ties, transportation, and Swahili oral and written literature. Students are encouraged to use the knowledge acquired in their respective areas of specializations and personal experiences to make connections and comparisons.

Rules & Requirements
IDEAs in Action Gen Ed: FC-GLOBAL.
Requisites: Prerequisite, SWAH 403.
Grading Status: Letter grade.
Global Language: Level 4.

SWAH 405. Advanced Kiswahili V. 3 Credits.
Advanced Swahili aims at developing fluency and proficiency in Swahili language and students' understanding of the social, economic, and political situation and activities of the East African people. Further, the course is designed to develop the students' ability to describe events, express opinions, and compare what they learn in class with personal experience and knowledge in their respective fields of specialization using structured arguments.

Rules & Requirements
IDEAs in Action Gen Ed: FC-GLOBAL, COMMBEYOND.
Requisites: Prerequisite, SWAH 404.
Grading Status: Letter grade.
Global Language: Level 5.

SWAH 406. Advanced Plus Kiswahili VI. 3 Credits.
This course reinforces and expands the grammatical, cultural, and communicative competence achieved in SWAH 405.

Rules & Requirements
IDEAs in Action Gen Ed: FC-GLOBAL, COMMBEYOND.
Requisites: Prerequisite, SWAH 405 or permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Global Language: Level 6.

SWAH 408. Swahili Across the Curriculum Recitation. 1 Credits.
SWAH 408 explores contemporary health issues and other current affairs in Africa. The course is designed to help students understand the basic health issues in Africa as well as develop their language skills in reading, listening, comprehension and writing of Swahili language. Further, students will examine how language and culture impact beliefs and behaviors, and how together, these impact health interventions.

Rules & Requirements
Requisites: Prerequisite, SWAH 403 or permission of the instructor for students lacking the prerequisite.
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 8 total credits. 8 total completions.
Grading Status: Letter grade.

WOLO-Wolof

Advanced Undergraduate and Graduate-level Courses

WOLO 401. Elementary Wolof I. 3 Credits.
WOLO 401 (Elementary Wolof I) is appropriate for beginners with no background in the language.

Rules & Requirements
Grading Status: Letter grade.
Global Language: Level 1.

WOLO 402. Elementary Wolof II. 3 Credits.
WOLO 402 (Elementary Wolof 2) is appropriate for learners who have completed (or placed successfully out of) WOLO 401.

Rules & Requirements
Requisites: Prerequisite, WOLO 401.
Grading Status: Letter grade.
Global Language: Level 2.

WOLO 403. Intermediate Wolof III. 3 Credits.
WOL 403 is appropriate for learners who have completed (or successfully placed out of) Elementary Wolof 2.

Rules & Requirements

IDEAs in Action Gen Ed: GLBL-LANG.
Requisites: Prerequisite, WOLO 402.
Grading Status: Letter grade.
Global Language: Level 3.

WOLO 404. Intermediate Wolof IV. 3 Credits.
WOL 404 is appropriate for learners who have completed Intermediate Wolof 1.

Rules & Requirements
Requisites: Prerequisite, WOLO 403.
Grading Status: Letter grade.
Global Language: Level 4.

WOLO 405. Advanced Wolof V. 3 Credits.
This course is intended for learners who have acquired Wolof proficiency in WOLO 403 and 404. It provides students with the communication and linguistic skills needed to communicate fluently at the near-native level.

Rules & Requirements
Requisites: Prerequisite, WOLO 404.
Grading Status: Letter grade.

WOLO 406. Advanced Wolof VI. 3 Credits.
This course is intended for learners who have acquired Wolof proficiency in WOLO 405. It provides students with the advanced communication and linguistic skills needed to communicate fluently at the native level.

Rules & Requirements
Requisites: Prerequisite, WOLO 405.
Grading Status: Letter grade.

YORU-Yoruba

Advanced Undergraduate and Graduate-level Courses

YORU 401. Elementary Yoruba I. 3 Credits.
This course is an introduction to Yoruba and is intended for students with no prior knowledge of the language and culture of Yorubaland. The course emphasizes spoken and written Yoruba, as used in present day West Africa. At the end of this course, students are expected to reach Novice High according to the American Council Council on the Teaching of Foreign Languages (ACTFL) proficiency guidelines.

Rules & Requirements
Grading Status: Letter grade.
Global Language: Level 1.

YORU 402. Elementary Yoruba II. 3 Credits.
It introduces more advanced grammar and emphasizes more fluency in speaking, reading, and writing in standard Yoruba. The course develops students understanding of the Yoruba culture and the West African people who use Yoruba as the language of wider communication. To learn the Yoruba language and culture, students cover a wide range of socioeconomic and political topics including greetings, nutrition, health, housing, business and political leadership.

Rules & Requirements
Requisites: Prerequisite, YORU 401; Permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Global Language: Level 2.

YORU 403. Intermediate Yoruba III. 3 Credits.
Intermediate Yoruba III is a continuation of Elementary Yoruba. It is the first of two intermediate level courses of the language. Students taking this course are assumed to have taken Yoruba Elementary I & II where basic elements of Yoruba language and culture are introduced. Emphasis is placed on reinforcing the basic structures learned in Elementary Yoruba I and II through oral and aural activities and increasing the level of active vocabulary.

Rules & Requirements

IDEAs in Action Gen Ed: GLBL-LANG.
Grading Status: Letter grade.
Global Language: Level 3.

DEPARTMENT OF AMERICAN STUDIES (GRAD)

The Department of American Studies offers a Ph.D. in American studies and an M.A. in folklore as well as a graduate minor in either American studies or folklore for students pursuing a graduate degree in other departments.

Ph.D. in American Studies

The Ph.D. degree in American studies provides rigorous training in interdisciplinary methods dedicated to the understanding of the complex cultures and history of the United States and its place in the world. Program graduates will be prepared both to teach at the college and university levels in American studies and related fields, including Southern studies, American Indian studies, literature, history, art history, cultural studies, and folklore, and to pursue professional opportunities in museums, historical sites, archives, or related fields requiring interdisciplinary perspectives and methodologies.

Admission

Students will be admitted to the Ph.D. in American studies from a range of academic programs, some with an undergraduate degree, some with a master's degree in American studies or another relevant discipline. Candidates for admission should be firmly grounded in the humanities, social sciences, or the arts. The best qualified students should articulate an interest in American history, literary, expressive and/or material culture, and/or critical theory; should show some familiarity with library, web-based, and/or ethnographic research methods; and should offer a specific rationale for their interest in the UNC–Chapel Hill graduate program. In addition to The Graduate School application form, candidates for admission will present one or two writing samples, a statement of purpose, three letters of recommendation, official transcripts, and a curriculum vitae. Transfer credits may be awarded at the department's discretion on the basis of course equivalencies.

Applications will be accepted in December for matriculation the following August. Consult the website of The Graduate School (http://gradschool.unc.edu/admissions/) for details, specific deadlines, and a link to the online application system.

M.A. in Folklore (https://americanstudies.unc.edu/areas-in-american-studies/folklore/)

The M.A. program in folklore (https://americanstudies.unc.edu/areas-in-american-studies/folklore/) focuses on the study of creativity and aesthetic expression in everyday life and on the social and political implications of this expression as it unfolds in contested arenas of culture. Not bound to traditional definitions of folklore, and committed to preparing students for ethical practice in a multicultural world, the program offers a flexible M.A. curriculum that readies students for both public practice and further academic study.

Admission

Applications will be accepted in December for matriculation the following August. Consult the website of The Graduate School (http://gradschool.unc.edu/admissions/) for details, specific deadlines, and a link to the online application system.

The Department of American Studies also offers a Ph.D. in American studies; however, admission to the M.A.in folklore does not constitute admission to the Ph.D. in American studies.

Ph.D. in American Studies

The Ph.D. program in American studies balances flexibility and a focus on students' own areas of interest with requirements designed to insure knowledge of key issues and texts in the interdisciplinary study of American culture. Ph.D. students must complete 20 courses (60 hours). Those who enter the program with an M.A. may count up to 9 hours of previous study toward the degree. Three specific courses–AMST 700, AMST 701, and AMST 902–are required to be completed between the first and third year. Students supplement that core institutional track with other courses offered by American Studies core faculty and those in a variety of associated graduate programs, such as anthropology, English, geography, history, music, or religious studies. Students pursuing the Ph.D. take two comprehensive exams, one in American studies (which is fulfilled by completion of AMST 700 and AMST 701) and another in an area of specialization developed in consultation with their advisors before beginning their dissertation work. They are also expected to participate actively in the departmental colloquium.

Students who join the department with a master's degree can expect to spend less time on coursework than those who enter with an undergraduate degree, although students admitted with a master's degree in a field other than American studies may need to take some additional courses as they progress toward the American studies Ph.D. The graduate studies committee will make the determination on an individual basis. Students who enter with an undergraduate degree may choose to earn the M.A. at the end of their second year, upon completion the portfolio project, before proceeding to preparation for comprehensive examinations and the dissertation.

Research Proficiency Certification

Each Ph.D. candidate is expected, as a condition of advancing to candidacy, to select and develop an individualized proficiency that will improve the quality and impact of their research and enhance the capacity they will wield in their professional lives. This empowers students to add value to their education by defining and pursuing an enabling skill set that can deepen the dimensions of their research, practice, and service.

Examples of useful proficiencies might include:

- the study of a relevant language other than English;
- ethnographic field work;
- oral history interview and recording techniques;
- digital modes of coding, mapping, and visualization;
- training in the processes of public planning and policy;
- facility in survey methods and quantitative analysis;
- skills in documentary production; or
- archival curation and museum programming.

The proficiency must be in addition to or extend the skill set that students bring with them at matriculation. Certification of this proficiency is met by two requirements:

- the completion of at least one course or an equivalent process of training; or

- a practical demonstration of its acquisition and documentation of at least 100 hours of training.

Incoming doctoral students have the responsibility to work with their preliminary advisor to select a proficiency and prepare a plan for its attainment before they complete their prospectus and become candidates for the Ph.D. A written application on a departmental form will spell out which skill set they will acquire to meet this certification, describe the extent of their present competency, explain why it is relevant to their research, and outline how their plan enables them to gain proficiency. Incoming students will submit their proposal to the Graduate Studies Committee by October 1 of their first semester. This committee will meet to approve or suggest alternations to this proposal by November 15. At the end of the fall of the second year, the director of graduate studies will follow up and confirm with students and their dissertation directors whether the benchmarks of attainment have been fulfilled, and if not, what plan is in place to complete the requirement.

Colloquium

All students enrolled in the American studies graduate program are expected to participate throughout their graduate careers in a monthly colloquium in which faculty and M.A. and Ph.D. candidates will offer presentations of their work-in-progress. The colloquium exposes graduate students to the research interests of faculty in American studies and allied fields and more advanced students, provides opportunities for sharing discourses and ideas, and may also include visiting graduate students and faculty from international partner institutions. The colloquium is the collegial wellspring of the program, the intellectual and social center of the American Studies community. The conversation occurring there will naturally both inform and be informed by classroom work, particularly in AMST 700 and AMST 701 will help to shape, against the backdrop of individual specializations, a common discourse; and will provide a site for the formation of the American studies social and intellectual community.

Comprehensive Exams

All students, regardless of whether they enter with a B.A. or M.A., undertake their comprehensive exams in the fall of their third year. Students and faculty members will work collaboratively, with the aim of integrating the best work with the most current scholarship in particular fields. Each student will assemble a three-person examination advisory committee (often consisting of three faculty members from the Department of American Studies or two such faculty members and one from a related department). Students who complete AMST 700 and AMST 701 are considered to have passed their American Studies exam. The field exam tests an area of specialization chosen by the student in consultation with their advisor. With input from their advisor and their two other committee members, the student will develop a reading list for the field exam, which will test an area of specialization. Shortly after passing the written exams, each student will undergo an oral exam covering both American Studies and their selected field. Students are expected to receive passing evaluations on the written and oral exams. Any student who fails one or more sections of the exam may repeat the failed section(s) only once, no sooner than three months following the exam.

Teaching and Professional Development

All students will be expected to teach as part of their service requirement for financial aid. Students will most often serve as teaching assistants in undergraduate courses taught by members of the faculty. More advanced students may have the opportunity to develop and teach undergraduate courses in their areas of specialization.

Doctoral Dissertation and Defense

The dissertation constitutes an original contribution to knowledge that advances the interdisciplinary understanding of American culture. It may be based upon archival research, analysis of texts and/or cultural artifacts, ethnographic research, or a combination. The student will assemble a five-person doctoral advisory committee, which must include three faculty members from the Department of American Studies. The student ordinarily completes the dissertation prospectus and refines it with the advice of the doctoral advisory committee at the end of their fifth semester, in the Fall of their third year. The prospectus must be approved by the committee following a prospectus defense no later than the January of their third year. Upon completion of the dissertation at the end of their fifth year, all degree candidates must successfully defend their dissertation before their doctoral advisory committee.

M.A. in Folklore

The M.A. program in folklore balances flexibility and a focus on students' own areas of interest with requirements designed to insure knowledge of key issues and texts in the discipline. Master's students must complete 10 courses (30 hours). Two specific courses–Approaches to Folklore Theory (FOLK 850) and The Art of Ethnography (FOLK 860)–are required, and students must take three additional courses offered by core faculty. Students take the remainder of their courses in a variety of associated graduate programs, including American studies, anthropology, communication, English, history, music, and religious studies, or they may take advantage of the opportunity to enroll in courses at neighboring universities, particularly those offered at the Center for Documentary Studies at Duke University. Students pursuing an M.A. must compile a critical literature review at the beginning of their third semester and must complete and defend a thesis at the end of their second year of study.

Graduate Minor in American Studies

The American studies graduate minor serves students admitted in a variety of departments, including art, communications studies, English, history, music, and religious studies. Interdisciplinary training in the study of American culture can enhance scholarly and teaching capabilities for these students. The object of study is American culture in all its diversity, and the methodologies include historical, literary, and visual analysis as well as ethnography, sociology, economics, and political science as appropriate. To apply, contact the director of graduate studies.

The graduate minor consists of five courses, to be selected with the advice of the chair or director of graduate studies in American studies. These courses should include AMST 700 or AMST 701 and at least two other graduate courses with an AMST designation. Additional courses may be chosen from related departments. These courses must be in addition to those required for the degree in the student's major field of study.

Graduate Minor in Folklore

Students pursuing the Ph.D. in another department at UNC–Chapel Hill may qualify for a minor in folklore by completing six courses, chosen in consultation with the coordinator of the folklore program. These courses must be in addition to those required for the degree in the student's major field of study.

Professors

Daniel Cobb, American Indian and Indigenous Studies, American Indian History, Politics and Activism, Ethnohistorical Methods, Biography and Memory, Global Indigenous Rights
Amanda Cobb-Greetham, American Indian and Indigenous Studies, American Indian History, Museum Design and Curation
Elizabeth Engelhardt, Southern Cultures, Food, Appalachia, Feminism, Literature, Region and Place
Sharon Holland, Critical Race Theory, Feminist Theory, Queer Theory, Sexuality Studies, Animal Studies
Blair Kelley, Director, Center for the Study of the American South, Public History, African American experience
Timothy Marr, 19th-Century American Literary and Cultural History, Transnational American Studies, Islam in/and America, Herman Melville

Associate Professors

Gabrielle Berlinger, Material Culture, Ritual, Jewish Folklore and Ethnology, Ethnography, Public Folklore, Museum Anthropology[1]
Seth Kotch, Digital Humanities, Modern South, Oral History, Criminal and Social Justice
Michelle Robinson, 19th- and 20th-Century United States Religious History, 19th- and 20th- Century American Literature, U.S. Cinema
Patricia Sawin, Narrative, Discourse, Festival, Culture of Adoption[1]

Assistant Professors

Kelly Alexander, Food Studies, Ethnographic Methods, Documentary Studies, Feminism
Ben Bridges, Folklore, Art-making, Environmental Humanities, Indigenous peoples in Alaska
Amanda Martinez, Race and Ethnicity; Cultural History; History of Capitalism; Business and Labor History; Country Music Industry
Soham Patel, Asian American Cultural Studies, South Asian Diaspora, Social Movements, Anticolonial Thought, Migrant Histories
Antonia Randolph, Black Masculinity, Popular Culture (Hip-Hop), Music, Race Theory, Education, Sexuality

Adjunct Faculty in American Studies

Daniel Anderson (English and Comparative Literature), Digital Humanities, Rhetoric, Alt-Scholarship
Fitzhugh Brundage (History), American History since the Civil War, Southern History, Historical Memory
Maggie Cao (Art History), Art and Technology, Landscape, Material Culture, Ecocriticism
Claude Clegg (African, African American and Diaspora Studies; History), African American History, Modern U.S. History, Migrations and Diaspora, Nationalism, Social Movements
Kathleen DuVal (History), Early America, Cross-Cultural Relations on North American Borderlands
Philip Gura (English and Comparative Literature), American Literature, American Studies
Glenn D. Hinson (Anthropology), Ethnography, African American Expressive Culture, Belief Systems, Vernacular Art, Public Folklore, American South[1]
Heidi Kim (English and Comparative Literature), Director, Asian American Center
Jocelyn Neal (Music), 20th-Century Music Theory, Popular Music[1]
Michael Palm (Communication), Technology and Everyday Life, Politics and Economics of Media Culture, Telecommunications History, Work, Labor and Consumption Studies
Eliza Richards (English and Comparative Literature), 19th-Century American Literature, Gender Studies, American Poetry
Jane Thrailkill (English and Comparative Literature), 19th-Century American Literature, Medical Humanities
Timothy Tyson (Center for Documentary Studies at Duke University), American Christianity, Southern Culture, Civil Rights, African American History
Ariana Vigil (Women's and Gender Studies), Latina/o Literature, Militarization, Gender and Sexuality Studies

[1] *Core members of the folklore program*
For a complete list of adjunct and affiliated faculty, click here (https://americanstudies.unc.edu/people-pages/faculty/).

Retired Professors

Robert Allen, Digital Humanities, American Cultural History, Family History
Marcie Cohen Ferris, Southern Jewish History, Food Studies, Southern Studies
William Ferris, Southern Music and Literature, Documentary Studies, American South
John Kasson, American Intellectual and Cultural History, Technology and Society, Art and Literature, Popular Culture
Joy Kasson, American Visual Culture, Literature, Popular Culture, Cultural History
Daniel W. Patterson, Ballads, American Folksong, Religious Folklife, Gravestones, American South
Theda Perdue, Native American History
Rachel Willis, Global American Studies, Transportation Planning, Labor Economics, Education

AMST

Advanced Undergraduate and Graduate-level Courses

AMST 439. Meaning and Makers: Indigenous Artists and the Marketplace. 3 Credits.
This course examines how indigenous artists have negotiated, shaped, and pursued markets and venues of display ranging from "fine" art markets, galleries, and museums to popular markets associated with tourism.

Rules & Requirements
Grading Status: Letter grade.

AMST 440. American Indian Poetry. 3 Credits.
This course explores the relation of American Indian poetry and music in English to the history and culture of indigenous communities and their relation to the United States.

Rules & Requirements
Grading Status: Letter grade.

AMST 475. Documenting Communities. 3 Credits.
Covers the definition and documentation of communities within North Carolina through research, study, and field work of communities. Each student produces a documentary on a specific community. Previously offered as AMST 275. Honors version available.

Rules & Requirements
Grading Status: Letter grade.

AMST 483. Seeing the USA: The Film Director as Public Intellectual. 3 Credits.
Examines the ways in which films communicate the values of American culture and raise questions about American experiences.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH, RESEARCH.
Grading Status: Letter grade.

AMST 486. The Jewish South: Race, Region, and Religion. 3 Credits.
This course explores ethnicity in the South and focuses on the history and culture of Jewish Southerners from their arrival in the Carolinas in the 17th century to the present day.

Rules & Requirements

IDEAs in Action Gen Ed: FC-PAST or FC-POWER.
Grading Status: Letter grade.
Same as: JWST 486.

AMST 487. Early American Architecture and Material Life. 3 Credits.
This course explores, through lecture and discussion, the experiences of everyday life from 1600 through the early 19th century, drawing on the evidence of architecture, landscape, images, and objects.

Rules & Requirements
Grading Status: Letter grade.

AMST 489. Writing Material Culture. 3 Credits.
A reading seminar that examines multiple critical perspectives that shape the reception and interpretation of objects, with a particular emphasis on things in American life.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-KNOWING.
Grading Status: Letter grade.

AMST 493. Internship. 1-3 Credits.
Permission of the department and the instructor. Internship. Variable credit.

Rules & Requirements

IDEAs in Action Gen Ed: HI-INTERN.
Repeat Rules: May be repeated for credit. 6 total credits. 6 total completions.
Grading Status: Letter grade.

AMST 498. Advanced Seminar in American Studies. 3 Credits.
Graduate or junior/senior standing. Examines American civilization by studying social and cultural history, criticism, art, architecture, music, film, popular pastimes, and amusements, among other possible topics.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 9 total credits. 3 total completions.
Grading Status: Letter grade.

AMST 510. Federal Indian Law and Policy. 3 Credits.
This course gives an introduction to the American government's law and policy concerning tribal nations and tribal peoples. We examine a number of legal and political interactions to determine how the United States has answered the "Indian problem" throughout its history and the status of tribal peoples and nations today.

Rules & Requirements

IDEAs in Action Gen Ed: FC-POWER.
Grading Status: Letter grade.

AMST 511. American Indians and American Law. 3 Credits.
This course explores the history of Native interaction with the American legal system in order to understand how the law affects Native peoples and others today. Students are encouraged (but not required) to take AMST 510 before enrolling in this course.

Rules & Requirements

IDEAs in Action Gen Ed: FC-POWER.
Grading Status: Letter grade.

AMST 512. Race and American Law. 3 Credits.
This class will explore the intersection between race and American law, both in a historical and contemporary context. It will ask how both of these major social forces have informed and defined each other and what that means for how we think about race and law today.

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING or FC-POWER.
Grading Status: Letter grade.

AMST 575. The American Cookbook in Theory and Practice. 3 Credits.
This advanced seminar and food-writing workshop focuses on the in-depth study of archival American cookbooks and the production of an original cookbook as the final project. Designed for advanced undergraduate and graduate students, the course emphasizes in-depth research, recipe development, and food writing. Each student will produce four well-researched, kitchen-tested recipes with accompanying headnotes based on fieldwork (e.g., interviews, archival research at Wilson Library). Students will also write an extensive introduction and include visual elements such as photographs or illustrations. Weekly seminar sessions will explore fieldwork methods, recipe writing, and narrative techniques, with peer feedback and practical food writing exercises.

Rules & Requirements

IDEAs in Action Gen Ed: FC-CREATE or FC-KNOWING, RESEARCH.
Requisites: Prerequisite, AMST 375 or AMST 275.
Grading Status: Letter grade.

AMST 671. Introduction to Public History. 3 Credits.
Introduces the theory, politics, and practice of historical work conducted in public venues (museums, historic sites, national parks, government agencies, archives), directed at public audiences, or addressed to public issues.

Rules & Requirements
Grading Status: Letter grade.
Same as: HIST 671.

AMST 691H. Honors in American Studies. 3 Credits.
Directed independent research leading to the preparation of an honors thesis and an oral examination on the thesis. Required of candidates for graduation with honors in American studies who enroll in the class once permission to pursue honors is granted.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

AMST 692H. Honors in American Studies. 3 Credits.
Directed independent research leading to the preparation of an honors thesis and an oral examination on the thesis. Required of candidates for graduation with honors in American studies who enroll in the class once permission to pursue honors is granted.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

Graduate-level Courses

AMST 700. The History and Practices of American Studies. 3 Credits.
This course will acquaint students with the texts, contexts, issues, and controversies in American Studies as a field of study. It is required for most American studies graduate students and open to graduate students in other departments.

Rules & Requirements
Grading Status: Letter grade.

AMST 701. Interdisciplinary Research Methods. 3 Credits.
This course will focus on techniques of American studies investigation. Various faculty members will make presentations highlighting approaches including Southern studies, American Indian studies, Material Culture studies, and new media.

Rules & Requirements
Grading Status: Letter grade.

AMST 702. Readings in American Studies. 3 Credits.
This course takes a specific topic to explore in depth, and through this investigation critically examines contending perspectives on the field. Topics will change depending on faculty interest.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

AMST 714. Incarceration in America. 3 Credits.
This course explores the theoretical underpinnings, history, and contemporary controversies around incarceration in the United States. It begins by exploring early articulations of the need for imprisonment as punishment, examines how that history unfolded in the 18th, 19th, and 20th centuries, and engages with contemporary debates about mass incarceration and its impacts on American communities.

Rules & Requirements
Grading Status: Letter grade.

AMST 715. Community Histories and Public Humanities. 3 Credits.
Community Histories and Public Humanities explores how communities have been, are, and might be preserved, documented, represented, and remembered. Focuses on the use of digitized primary sources and tools to engage communities in public history/humanities initiatives using interdisciplinary approaches informed by American Studies and Folklore. Participants have opportunity to work on ongoing community history/ archiving projects. Project-based work is supported by reading in memory studies, representation, sites of trauma, community archiving, and oral history.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

AMST 720. Fugitive Philosophies: The Intellectual Tradition of Forced Movers. 3 Credits.
Seminar traces the intellectual tradition of refugees, migrants, and forced movers transiting the United States. Beginning in the 19th century and progressing to the 21st century, we will examine the works of anticolonial thinkers, Caribbean philosophers, journalists of the African American and Latinx traditions, labor movement musicians, activists in the Long Civil Rights Movement, Marxist organizers, and social and political reformers. We analyze how their dislocations and multi-sited lives have created spaces for philosophical interventions.

Rules & Requirements
Grading Status: Letter grade.

AMST 775. Graduate Seminar in Critical Food Studies: Interdisciplinary Research. 3 Credits.
This seminar introduces graduate students to critical food studies--a dynamic, interdisciplinary subfield that uses food as a lens to examine systems of power, measures of social belonging, and concerns about environmental sustainability. Drawing on methods from anthropology, literature, history, public health, and beyond, we engage with diverse readings--including ethnographies, biographies, farm records, community and chef cookbooks, novels, oral histories, and documentaries--to investigate American food communities as well as the uses and meanings of food within them. Rather than defining food studies, we explore its interdisciplinary questions and methods while reflecting on the ethical responsibilities of researchers in this evolving field.

Rules & Requirements
Grading Status: Letter grade.

AMST 795. Digital Humanities Field Experience. 1-3 Credits.
An opportunity for students to translate theory into practice as they make meaningful contributions to digital humanities projects. Field experience can be tailored to fit the intellectual and professional needs of individual students, who may choose to work on projects in cultural heritage institutions or within academic departments on campus.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

AMST 820. Critical Ethnic Studies (CES): New Perspectives. 3 Credits.
This course is devised to provide graduate students interested in theoretical interdisciplinary work with a sense of prevailing questions and critiques important to CES. CES takes on the more difficult questions of intersectional work, as it thinks through sovereignty and emancipation, identity and ontology, place, space and temporality. Each iteration of the course works itself through new perspectives in the field, challenging students to create new methodologies for their own work.

Rules & Requirements
Grading Status: Letter grade.
Same as: COMM 820, WGST 820.

AMST 840. Digital Humanities/Digital American Studies. 3 Credits.
This course, explores the application of digital technologies to the materials, questions, and practices of humanities scholarship, particularly as related to enduring topics in American Studies scholarship and community engagement. Students will work on group digital history projects in collaboration with local cultural heritage organizations.

Rules & Requirements
Grading Status: Letter grade.

AMST 850. Digital Humanities Practicum. 3 Credits.
This practicum blends graduate seminar discussions with hands-on training in the digital humanities. Students will work in the Digital Innovation Lab, contributing to real-life projects while developing their own professional development goals. Students will emerge with a deeper understanding of and experience with digital humanities approaches, practices, and issues.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

AMST 878. Readings in Native American History. 3 Credits.
Readings in and discussions of the major works in Native American history.

Rules & Requirements
Grading Status: Letter grade.
Same as: HIST 878.

AMST 880. American Film and Media History. 3 Credits.
Topically focused examination of social and cultural aspects of cinema and media history in the United States, including cinema/media audiences, reception, and historiography.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

AMST 890. Seminar in American Studies. 3 Credits.
Graduate seminar exploring selected topics in the theory and practice of American Studies.

Rules & Requirements
Repeat Rules: May be repeated for credit. 12 total credits. 4 total completions.
Grading Status: Letter grade.

AMST 895. Directed Readings. 3 Credits.
Permission of the instructor. Independent reading programs for graduate students.

Rules & Requirements
Repeat Rules: May be repeated for credit. 12 total credits. 4 total completions.
Grading Status: Letter grade.

AMST 900. Directed Studies. 0.5-15 Credits.
Permission of the instructor. Topics and credit hours vary according to the needs and interests of the individual student and the professor supervising the research project.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

AMST 901. Ph.D. Prospectus Design and Writing. 3 Credits.
This is the last required course for PhD students in the Department of American Studies. It is intended to scaffold you into "ABD" status: the concentrated period of research and writing that leads you to the completion of dissertation research and writing. This seminar supports you through the design and writing of your dissertation prospectus, to be completed and defended by the end of the fall term.

Rules & Requirements
Grading Status: Letter grade.

AMST 948. Research in Native American History. 3 Credits.
This course introduces graduate students to research methods in Native American history, including the methodology of ethnohistory and the techniques of compiling a source base, taking notes, and outlining.

Rules & Requirements
Grading Status: Letter grade.
Same as: HIST 948.

AMST 992. Master's (Non-Thesis). 3 Credits.
Non-Thesis Option

Rules & Requirements
Repeat Rules: May be repeated for credit.

AMST 993. Master's Research and Thesis. 3 Credits.
Master's Thesis

Rules & Requirements
Repeat Rules: May be repeated for credit.

AMST 994. Doctoral Research and Dissertation. 3 Credits.
Individual work on the doctoral dissertation, pursued under the supervision of the Ph.D. advisor.

Rules & Requirements
Repeat Rules: May be repeated for credit.

FOLK

Advanced Undergraduate and Graduate-level Courses

FOLK 424. Ritual, Festival, and Public Culture. 3 Credits.
This course explores rituals, festivals, and public cultural performances as forms of complex, collective, embodied creative expression. As sites of popular celebration, conflict resolution, identity definition, and social exchange, they provide rich texts for folkloristic study. We consider how local and global forces both sustain and challenge these forms.

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING or FC-VALUES, RESEARCH.
Grading Status: Letter grade.
Same as: ANTH 424.

FOLK 428. Religion and Anthropology. 3 Credits.
Religion studied anthropologically as a cultural, social, and psychological phenomenon in the works of classical and contemporary social thought. Honors version available.

Rules & Requirements
Grading Status: Letter grade.
Same as: ANTH 428, RELI 428.

FOLK 429. Culture and Power in Southeast Asia. 3 Credits.
The formation and transformation of values, identities, and expressive forms in Southeast Asia in response to forms of power. Emphasis on the impact of colonialism, the nation-state, and globalization.

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL or FC-POWER.
Grading Status: Letter grade.
Same as: ANTH 429, ASIA 429.

FOLK 470. Medicine and Anthropology. 3 Credits.
This course examines cultural understandings of health, illness, and medical systems from an anthropological perspective with a special focus on Western medicine.

Rules & Requirements
Grading Status: Letter grade.
Same as: ANTH 470.

FOLK 472. Traditions in Transition: Jewish Folklore and Ethnography. 3 Credits.
This seminar examines Jewish stories, humor, ritual, custom, belief, architecture, dress, and food as forms of creative expression that have complex relationships to Jewish experience, representation, identity, memory, and tradition. What makes these forms of folklore Jewish, how do source communities interpret them, and how do ethnographers document them? Previously offered as FOLK 380/FOLK 505/JWST 380/JWST 505.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-KNOWING, RESEARCH.
Grading Status: Letter grade.
Same as: JWST 472.

FOLK 473. Anthropology of the Body and the Subject. 3 Credits.
Anthropological and historical studies of cultural constructions of bodily experience and subjectivity are reviewed, with emphasis on the genesis of the modern individual and cultural approaches to gender and sexuality.

Rules & Requirements
Grading Status: Letter grade.
Same as: ANTH 473.

FOLK 476. Graffiti, Gods, and Gardens: Urban Folklore. 3 Credits.
What is the relationship between distinctive features of urban environments and the expressive forms found in those settings? This course explores the impact of the urban setting on folk traditions. We examine how people transform urban spaces into places of meaning through storytelling, festival, ritual, food, art, music, and dance.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-POWER, RESEARCH.
Grading Status: Letter grade.

FOLK 480. Vernacular Traditions in African American Music. 4 Credits.
Explores performance traditions in African American music, tracing development from African song through reels, blues, gospel, and contemporary vernacular expression. Focuses on continuity, creativity, and change within African American aesthetics. Previously offered as FOLK 610/AAAD 432.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-POWER.
Grading Status: Letter grade.
Same as: AAAD 480.

FOLK 481. Jewish Belonging/s: The Material Culture of Jewish Experience. 3 Credits.
What makes an object "Jewish"? This seminar examines how we think about, animate, repurpose, and display "Jewish" objects in the public realm, cultural institutions, religious spaces, and the home. We consider how makers and users negotiate objects' various meanings within the domains of prayer, performance, entertainment, and exhibition. The class curates a final group exhibition of Jewish material culture based on original fieldwork.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-CREATE, RESEARCH.
Grading Status: Letter grade.
Same as: JWST 481.

FOLK 484. Discourse and Dialogue in Ethnographic Research. 3 Credits.
Study of cultural variation in styles of speaking applied to collection of ethnographic data. Talk as responsive social action and its role in the constitution of ethnic and gender identities.

Rules & Requirements
Grading Status: Letter grade.
Same as: ANTH 484, LING 484.

FOLK 487. Everyday Stories: Personal Narrative and Legend. 3 Credits.
Oral storytelling may seem old-fashioned, but we tell true (or possibly true) stories every day. We will study personal narratives (about our own experiences) and legends (about improbable, intriguing events), exploring the techniques and structures that make them effective communication tools and the influence of different contexts and audiences.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-KNOWING.
Grading Status: Letter grade.
Same as: ENGL 487.

FOLK 490. Topics in Folklore. 3 Credits.
Topics vary from semester to semester.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

FOLK 495. Field Research. 3 Credits.
Research at sites that vary.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

FOLK 496. Directed Readings in Folklore. 3 Credits.
Permission of the department. Topic varies depending on the instructor.

Rules & Requirements
Repeat Rules: May be repeated for credit. 12 total credits. 4 total completions.
Grading Status: Letter grade.

FOLK 502. Myths and Epics of the Ancient Near East. 3 Credits.
An examination of Babylonian, Canaanite, Egyptian, Hittite, and Sumerian texts from the prebiblical era, focusing on representative myths, epics, sagas, songs, proverbs, prophecies, and hymns. Honors version available.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-PAST.
Grading Status: Letter grade.
Same as: RELI 502.

FOLK 537. Gender and Performance: Constituting Identity. 3 Credits.
Examines the culturally and historically variable ways in which individuals constitute themselves as cis- or transgendered subjects, drawing upon extant expressive resources, modifying them, and expanding options available to others. Performance of self as the product of esthetically marked or unmarked, everyday actions.

Rules & Requirements
Grading Status: Letter grade.
Same as: ANTH 537, WGST 438.

FOLK 562. Oral History and Performance. 3 Credits.
This course combines readings and field work in oral history with the study of performance as a means of interpreting and conveying oral history texts. Honors version available.

Rules & Requirements

IDEAs in Action Gen Ed: HI-PERFORM.
Grading Status: Letter grade.
Same as: COMM 562, HIST 562, WGST 562.

FOLK 571. Southern Music. 3 Credits.
Explores the history of music in the American South from its roots to 20th-century musical forms, revealing how music serves as a window on the region's history and culture.

Rules & Requirements
Grading Status: Letter grade.
Same as: HIST 571.

FOLK 587. Folklore in the South. 3 Credits.
An issue-oriented study of Southern folklore, exploring the ways that vernacular artistic expression (from barns and barbecue to gospel and well-told tales) come to define both community and region.

Rules & Requirements
Grading Status: Letter grade.

FOLK 670. Introduction to Oral History. 3 Credits.
Introduces students to the uses of interviews in historical research. Questions of ethics, interpretation, and the construction of memory will be explored, and interviewing skills will be developed through field work.

Rules & Requirements
Grading Status: Letter grade.
Same as: HIST 670.

FOLK 675. Ethnographic Method. 3 Credits.
Intensive study and practice of the core research methods of cultural and social anthropology.

Rules & Requirements
Grading Status: Letter grade.
Same as: ANTH 675.

FOLK 688. Observation and Interpretation of Religious Action. 3 Credits.
Permission of the instructor. Exercises (including field work) in learning to read the primary modes of public action in religious traditions, e.g., sermons, testimonies, rituals, and prayers.

Rules & Requirements
Grading Status: Letter grade.
Same as: ANTH 688, RELI 688.

FOLK 690. Studies In Folklore. 3 Credits.
Topic varies from semester to semester.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

FOLK 691H. Honors Project in Folklore. 3 Credits.
Permission of the instructor. For honors candidates. Ethnographic and/or library research and analysis of the gathered materials, leading to a draft of an honors thesis.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

FOLK 692H. Honors Thesis in Folklore. 3 Credits.
Writing of an honors thesis based on independent research conducted in FOLK 691H. Open only to senior honors candidates who work under the direction of a faculty member.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Requisites: Prerequisite, FOLK 691H.
Grading Status: Letter grade.

Graduate-level Courses

FOLK 790. Public Folklore. 3 Credits.
A graduate seminar addressing theory and praxis in public sector cultural work. Focusing on public folklore, this course explores broad issues of representation, cultural politics, and cultural tourism.

Rules & Requirements
Grading Status: Letter grade.

FOLK 841. Performance Ethnography. 3 Credits.
This seminar focuses on methods of ethnography and fieldwork ethics. Performance as theory and practice informs methodological inquiries as well as the analysis of specific ethnographic texts and case studies.

Rules & Requirements
Grading Status: Letter grade.
Same as: COMM 841.

FOLK 842. Seminar in Performance and Cultural Studies. 3 Credits.
This course focuses on performance-related issues in the emergent field of cultural studies.

Rules & Requirements
Grading Status: Letter grade.
Same as: COMM 842.

FOLK 843. Seminar in Contemporary Performance Theory. 3 Credits.
An advanced graduate seminar, this course will address recent developments and problems in performance theory. It will consider cross- and multidisciplinary approaches to performance as sites for consideration and debate.

Rules & Requirements
Grading Status: Letter grade.
Same as: COMM 843.

FOLK 850. Approaches to Folklore Theory. 3 Credits.
A systematic overview of the major issues and theoretical perspectives that have informed the study of folklore historically and that are emerging in contemporary scholarship.

Rules & Requirements
Grading Status: Letter grade.

FOLK 860. Art of Ethnography. 3 Credits.
A field-based exploration of the pragmatic, ethical, and theoretical dimensions of ethnographic research, addressing issues of experience, aesthetics, authority, and worldview through the lens of cultural encounter. Field research required.

Rules & Requirements
Grading Status: Letter grade.
Same as: ANTH 860.

FOLK 890. Seminar in Folklore. 3 Credits.
Graduate seminar exploring selected topics in the theory and practice of Folklore.

Rules & Requirements
Repeat Rules: May be repeated for credit. 12 total credits. 4 total completions.
Grading Status: Letter grade.

FOLK 895. Directed Readings. 3 Credits.
Permission of the instructor. Independent reading programs for graduate students.

Rules & Requirements
Repeat Rules: May be repeated for credit. 12 total credits. 4 total completions.
Grading Status: Letter grade.

FOLK 900. Directed Studies. 0.5-15 Credits.
Permission of the instructor. Topics and credit hours vary according to the needs and interests of the individual student and the professor supervising the research project.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

FOLK 993. Master's Research and Thesis. 3 Credits.
Research in a special field under the direction of staff members.

Rules & Requirements
Repeat Rules: May be repeated for credit.

Contact Information

Department of American Studies
Visit Program Website (https://americanstudies.unc.edu/)

Director of Graduate Studies
Gabrielle Berlinger
gberling@unc.edu

Chair
Patricia Sawin
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DEPARTMENT OF ANTHROPOLOGY (GRAD)

The Ph.D. program in anthropology draws on the intellectual strengths of the department's faculty and a tradition of excellence in scholarly and applied approaches to train students to become leading researchers, teachers, and practitioners of anthropological knowledge. We only admit students pursuing a Ph.D. degree and offer specialized training to support their work. Students may earn an optional master's degree as part of their progress toward a Ph.D, should they desire.

Our graduate program offers intensive training in the methods and debates of contemporary anthropology, while also valuing interdisciplinary study. The Department of Anthropology and its doctoral program remain integrally connected to a range of interdisciplinary programs, centers, and research initiatives across the university and beyond. Up-to-date lists of anthropology faculty members and courses, along with additional information about the graduate program, faculty research projects, interdisciplinary affiliations, and other information are available on the department's website (http://anthropology.unc.edu/).

The Ph.D. program offers advanced training in archaeology, biological, medical, and sociocultural anthropology. The topics and structures of graduate students' dissertational research are flexible, provided they meet the formal approval of the student's advisor, Ph.D. committee, and the faculty. Recognizing the wide array of issues that anthropologists study today, the doctoral program aims to provide the specialization and accommodation that doctoral students require for their Ph.D. projects, while also facilitating generative exchange and awareness across the subfields of contemporary anthropology.

During the first year in the program, students are required to take an integrated three-field 'Core' proseminar (ANTH 701), during the fall semester. Students subsequently are required to take a specialized Core proseminar in their respective subfield.

Our doctoral program puts a premium on professionalization and career development. First-year students are required to enroll in our Monday afternoon seminar "The Practice of Anthropology", which focuses on developing the skills and credentials necessary for a successful career in anthropology. Though required for first-year students, all doctoral students are encouraged to attend this fall-spring seminar —as it is a locus of our departmental culture. The program also relies on a portfolio model to organize student's professional development. Assembled throughout one's time in the program, these portfolios provide a repository of key credentials, achievements, and resources for advancement in academic and/or non-academic careers. The internal components of these portfolios will vary by subfield and student, and should be developed in regular consultation with the student's advisor.

During the second year, graduate students are required to produce a substantial piece of independent research/writing, advised by a three-member faculty committee (also constituted during the second year). The nature of this requirement varies by subfield. At the end of Year 2, the committee will assess this work and make a recommendation whether the student is to move forward with preparing for their comprehensive exams in Year 3.

During the third year, students should be preparing for fieldwork, applying for funding, writing their dissertational proposal, and progressing toward their comprehensive exams. Prior to their exams, students are required to constitute their 5-person dissertation committee, with whom they will work closely for the duration of their time in the program. Ensuring competency in one's field-language is an important facet of anthropological research. Students, in collaboration with their committee, will ensure these needs are met prior to their PhD exams. Graduate students are recommended to take their written and oral Ph.D. exams by the end of Year 3. Upon successfully completing their exams, students advance to Ph.D. candidacy (becoming 'ABD') and may formally begin their dissertational research. ABD students may register for dissertation hours (ANTH 994), while completing their thesis.

Dissertational fieldwork in anthropology varies by subfield. Sociocultural anthropologists typically conduct a minimum of one year's field work, which provides the context for the dissertation data. Students of archaeology or biological anthropology may combine fieldwork with analysis of preexisting collections and data.

Following dissertational fieldwork, students typically take one to two years to write and defend their dissertation. The successful defense of one's dissertation confers the Ph.D. degree, thus completing the doctoral program.

Any exceptions to these requirements must be approved by the director of graduate studies.

Following the faculty member's name is a section number that students should use when registering for independent studies, reading, research, and thesis and dissertation courses with that particular professor.

Professors

Benjamin Arbuckle (86), Near Eastern Archaeology, Turkey, Origins and Evolution of Animal Economies, Animals in Complex Societies
Rudolf Colloredo-Mansfeld (76), Indigenous Peoples, Artisan Economies, Competition, Commodities, Consumer Cultures, Producer Associations, Local Food Systems
Valerie Lambert (58), American Indians, Tribal Sovereignty, Tribal Nation Building and Tribal Governance, Federal-Tribal Relations and Tribal-State Relations, Bureaucracy and the United States Bureau of Indian Affairs
Paul W. Leslie (37), Human Ecology, Biological Anthropology, Demography, Population Genetics, Reproduction, East Africa
Patricia McAnany (75), Cultural Heritage and Indigenous Communities, Ancestor Veneration, Archaeological Understanding of Detachment from Place, Cultural Logic of Noncapitalist Economies, Identity and Gender Constructs, Cacao Production and Use, Social Reproduction of Technology, Maya Studies, Archaeology of Mesoamerica
Charles Price (49), Black Identity; Collective Identity; Rastafari Identity; Race; Social Movements; Community Organizing Organizations; Life Narrative Research; Action Research; Resilience & Adversity
Karla Slocum (56), Place, Race, and History; Globalization; Rurality; Social Movements; the Caribbean; the United States Southwest
Vincas P. Steponaitis (2), Archaeology, Political Economy, Chiefdoms, Quantitative Methods, Southeastern United States
Amanda Thompson (78), Biomedical Anthropology, Nutrition, Human Biology, Early Life Determinants of Body Composition and Obesity, Infant and Child Feeding
Colin Thor West (81), Human Ecology and the Human Dimensions of Global Change, West Africa, Arctic North America/Asia, Southwestern United States

Associate Professors

Anna Agbe-Davies (79), Historical Archaeology, Plantation Societies of the Colonial Southeastern United States and Caribbean, Towns and Cities of the 19th- and 20th-Century Midwest, African Diaspora

Brian Billman (42), Archaeology of Chiefdoms and States, Political Economy, Human Violence, the Evolution of Human Behavior, Heritage Preservation, Settlement Pattern Analysis, the Prehistory of the Andes and the American Southwest

Jocelyn Lim Chua (82), Anthropologies and Politics of Health and Well-Being, Globalization of Psychiatry, Mental Health and Illness, Politics of Life and Death, Suicide, Ontologies of the Body, Kinship and Care, South Asia, Kerala

Glenn D. Hinson (36), Ethnography, Belief Studies, Folklife, Public Folklore, Trauma-Informed Ethnographic Practice, Experience-Centered Anthropology, African American Expressive Culture, Vernacular Poetry, Vernacular Art, African Diaspora, the North American South

Jon Bernard Marcoux (85), Colonial Period Archaeology, Diasporic Communities, Cultural Landscapes, Heritage Preservation, Quantitative Methods, Southeastern U.S.

C. Townsend Middleton (83), Politics of Recognition, Belonging, and Autonomy; Affect and Anxiety; the State; Anthropology of Knowledge; Political Anthropology; India; South Asia

Christopher Nelson (64), History and Memory, Everyday Life, Ethnography, Critical Theory, Storytelling, Ritual and Performance, Japan and Okinawa

Michele Rivkin-Fish (73), Medical Anthropology, Moral Economies of Medicine and Health, Gender and Health, Reproductive Politics, Health Care Reform, Russia, United States

Mark Sorensen (67), Biological Anthropology, Health and Culture Change, Adaptability, Energetics, Nutrition, Russia, Siberia, Ecuador

Angela Stuesse (84), Neoliberalism; Race, Ethnicity, and Identity; Globalization; Migration; Social Movements; Human Rights; Labor; Methodologies of Activist Research; the United States South and Southwest; Latino and Latin America; Equatorial Guinea

Margaret Wiener (47), Actor Network Theory, Ontology, Science Studies; History and Memory; Magic; Human and Animal Relations; Colonial Societies; Southeast Asia; Indonesia; Bali

Teaching Associate Professors

Martha King

Teaching Assistant Professors

Rachel Briggs
Emily Curtin
Charles Hilton
Doug Smit

Assistant Professors

Morgan Hoke (92), Biological Anthropology, Medical Anthropology, Human Biology, Inequality, Embodiment, Maternal and Child Health, Gut Health, Nutrition, Housing and Resource Security, Latin America, the Andes, North America

Caela O'Connell (88), Environmental Anthropology; Human-Environment Relationships; Socio-Ecological Interdependencies; Risk; Crisis; Change; Anthropologies of Water, Economics, Disaster, and Engagement; Interdisciplinary and Mixed Research Methodologies; Food and Agricultural Studies; Rural and Agrarian Communities; the Caribbean and the Americas

Dafna Rachok (23), Medical Anthropology, Global Health, Infectious Diseases, Care, Disability, Affect, Body and Embodiment, the State, Bureaucracies, Eastern Europe, Postsocialism, Ukraine

Melissa Salm (72), Global Health; Science & Technology Studies (STS); One Health; Zoonotic Infectious Diseases; Eco-Epidemiology; Planetary Health; Biosecurity Governance; Pandemic Preparedness; Science Mistrust; Public Health Misinformation; Conspiracy Theories

Adjunct Associate Professors

Michael C. Lambert (51), Political Anthropology, Economic Anthropology, Africa

Patricia Sawin (44), Ethnography of Communication, Narrative, Performance and Poetics, Gender, Anthropology of Children and Adoption, Southern United States, Latin America

Professors Emeriti

Florence Babb (79), Cultural/Economic/Feminist Anthropology, Gender and Sexuality, Critical Development Studies, Urbanization in the Global South, Tourism Studies, Latin American Studies, Central America, Central Andes, Caribbean

Carole L. Crumley (22), Epistemology of Complex Adaptive Systems; "Two Cultures" (Science/Humanities) Problems in Inter- and Transdisciplinary Research; Integrated Global- to Local-Scale Historical Ecology; Historical Climate Change; Evolution of Landscapes; Social Inequality; Social Memory; Applications of Geomatics (Especially GIS/Remote Sensing) to Anthropology, Ecology, and Regional Planning

Robert E. Daniels (4), Social Anthropology, Psychological Anthropology, Systems Theory, Africa

Arturo Escobar (53), Political Ecology; Anthropology of Development, Social Movements, and Science and Technology; Latin America; Colombia

Kaja Finkler (32), Medical Anthropology, Gender and Health, the New Genetics, Kinship and Family, Economic Anthropology, Political Economy, Globalization, Mexico, Latin America

Dale L. Hutchinson (63), Bioarchaeology, Human Osteology, Forensic Anthropology, Paleopathology, Health and Nutrition, Agricultural Origins and Consequences, Southeastern and Mid-Atlantic United States, South America

Norris B. Johnson (25), Architecture, Art and Aesthetics, Photography and Visual Anthropology, Religion and Nature, Japan

Donald Nonini (34), Urban Anthropology, Political Anthropology, Anthropology of the State, Class/Race/Ethnic/Gender Inequalities, Global Systems and Transnationalism, the Urban Commons, Chinese in Southeast Asia, China, the Southern United States

James L. Peacock (11), Global Issues and Identities, Southeast Asia, Southeastern United States

Peter Redfield (54), Anthropology of Science and Technology, Medicine, Colonial History, Ethics, Humanitarianism and Human Rights, NGOs and Transnational Experts, Europe, French Guiana, Uganda

C. Margaret Scarry (48), Archaeology, Paleoethnobotany, Subsistence Economies, Foodways, North America, Greek Aegean, Complex Societies

Silvia Tomášková (59), Archaeological Method and Theory; History of Archaeology; Social and Gender Archaeology; Archaeology and Nationalism, the State, Politics; Gender and Science; Women in Scientific Professions and Society; Old World Prehistory; Paleolithic Archaeology; Central and Eastern European Archaeology; Prehistoric Imagery; Theories of Symbolic Representation; Stone Tool Analysis

ANTH

Advanced Undergraduate and Graduate-level Courses

ANTH 404. Agent-Based Modeling of Social-Ecological Systems. 3 Credits.
This course exposes students to the potential of using agent-based modeling (ABM) to explore social-ecological system dynamics. ABM is used across the social and natural sciences and students will gain both theoretical and applied knowledge in how to use it. Students will acquire skills in computer-simulation modeling, social-ecological systems, writing code, building models and the quantitative interpretation of results. They will do so using the java-based ABM program NetLogo.

Rules & Requirements

IDEAs in Action Gen Ed: FC-QUANT, FC-LAB.
Grading Status: Letter grade.
Same as: ENEC 404.

ANTH 405. Mental Health, Psychiatry, and Culture. 3 Credits.
This course explores mental illness as subjective experience, social process, key cultural symbol, and object of intervention and expert knowledge. Our questions include: Does mental illness vary across cultural and social settings? How do psychiatric ways of categorizing, diagnosing, and treating mental illness shape people's subjective experience of their affliction? How is psychiatry predicated on cultural ideas about self and society? What does this contingency mean for the movement for global mental health?

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL or FC-KNOWING.
Grading Status: Letter grade.

ANTH 406. Native Writers. 3 Credits.
Exploration of a broad selection of writings by native or indigenous scholars from tribal societies throughout the world. Seeks to understand the hopes, dreams, priorities, and perspectives of native peoples as expressed by and through their writers.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-KNOWING.
Grading Status: Letter grade.

ANTH 409. Curating Things. 3 Credits.
Curating things focuses on the curation and care of archaeological collections. Students will learn about collections management through readings, discussions, lectures, and hands-on work at the Research Laboratories of Archaeology's curation facility, which houses the North Carolina Archaeological Collection. We'll explore basic principles of curation and data management and issues that affect curation nation-wide and internationally, such as collection accessibility and accountability, conservation and preservation, policies and regulations, and ethical concerns.

Rules & Requirements

IDEAs in Action Gen Ed: FC-PAST.
Grading Status: Letter grade.

ANTH 410. The Identification and Analysis of Historical Artifacts. 3 Credits.
This is a hands-on lab class on the identification and analysis of ceramics, tobacco pipes, glassware, small finds, and personal objects produced or traded in Northern Europe and Eastern North America. Students will be instructed on how to identify, date, and analyze artifacts from the 17th century through the middle of the 20th century. In addition, topics such as function, technology, and socioeconomic status will be discussed.

Rules & Requirements
Grading Status: Letter grade.

ANTH 411. Laboratory Methods in Archaeology. 3 Credits.
ANTH 411 will be all about curating things, specifically the curation and care of archaeological collections. Students will learn about collections management through readings, discussion, lectures, and hands-on work at the Research Laboratories of Archaeology's curation facility. The RLA curates collections mainly from the American South. Through the lens of the RLA collections, we'll explore basic principles of curation and data management as well as issues that affect curation nation-wide and internationally. Honors version available.

Rules & Requirements

IDEAs in Action Gen Ed: FC-PAST.
Grading Status: Letter grade.

ANTH 412. Paleoanthropology. 3 Credits.
This course traces the evolution of humans and nonhuman primates--including behaviors, tools, and bodies of monkeys, apes, and human hunters and gatherers--evolutionary theory, and paleoanthropological methods.

Rules & Requirements
Grading Status: Letter grade.

ANTH 413. Laboratory Methods: Archaeobotany. 3 Credits.
This course will focus on the analysis of plant remains from archaeological sites. Introduction to laboratory methods, analytical approaches, and interpretive framework for archaeobotany. Prior course in archaeology recommended but not required.

Rules & Requirements

IDEAs in Action Gen Ed: FC-NATSCI or FC-PAST, RESEARCH.
Requisites: Corequisite, ANTH 413L.
Grading Status: Letter grade.

ANTH 413L. Archaeobotany Lab. 1 Credits.
Lab analysis of plant remains from archaeological sites with an emphasis on basic procedures for processing, sorting, and identifying macrobotanical remains.

Rules & Requirements
Requisites: Corequisite, ANTH 413.
Grading Status: Letter grade.

ANTH 414. Laboratory Methods: Human Osteology. 3 Credits.
This course will focus on the analysis of human skeletal materials in the laboratory and in the field, with an emphasis on basic identification, age and sex estimation, and quantitative analysis.

Rules & Requirements

IDEAs in Action Gen Ed: FC-NATSCI or FC-PAST, RESEARCH.
Grading Status: Letter grade.

ANTH 414L. Human Osteology Lab. 1 Credits.
The laboratory analysis of human skeletal materials with an emphasis on basic identification, age and sex estimation, and quantitative analysis.

Rules & Requirements
Requisites: Corequisite, ANTH 414.
Grading Status: Letter grade.

ANTH 415. Laboratory Methods: Zooarchaeology. 3 Credits.
This course will focus on the analysis of animal remains from archaeological sites. Introduction to laboratory methods, analytical approaches, and interpretive frameworks for zooarchaeology.

Rules & Requirements
IDEAs in Action Gen Ed: FC-NATSCI or FC-PAST, RESEARCH.
Grading Status: Letter grade.

ANTH 415L. Zooarchaeology Lab. 1 Credits.
Required preparation, an archaeological course or permission of instructor. Examination of identification techniques, quantitative methods, and interpretive frameworks used to analyze animal remains recovered from archaeological sites.

Rules & Requirements
Requisites: Corequisite, ANTH 415.
Grading Status: Letter grade.

ANTH 416. Bioarchaeology. 3 Credits.
The study of human skeletal remains from archaeological contexts. The collection and interpretation of quantitative and qualitative data is emphasized to assess the relationship between past biology, environment, culture, and behavior.

Rules & Requirements
IDEAs in Action Gen Ed: FC-PAST.
Grading Status: Letter grade.

ANTH 417. Laboratory Methods: Lithic Seminar. 3 Credits.
Laboratory techniques in stone tool research and experimental practice.

Rules & Requirements
Grading Status: Letter grade.

ANTH 417L. Lithic Analysis Lab. 1 Credits.
Required preparation, any course in archaeology or permission of the instructor. This is a required one-hour laboratory section to be taken in conjunction with ANTH 417.

Rules & Requirements
Requisites: Corequisite, ANTH 417.
Grading Status: Letter grade.

ANTH 418. Laboratory Methods: Ceramic Analysis. 3 Credits.
A survey of the laboratory techniques used by archaeologists to study and draw social and behavioral inferences from ancient pottery.

Rules & Requirements
IDEAs in Action Gen Ed: FC-PAST.
Grading Status: Letter grade.

ANTH 419. Anthropological Application of GIS. 3 Credits.
This is a beginner/intermediate Geographic Information System/Science (GIS/GISci) course designed to help students develop spatial analysis and data visualization skills using ArcGIS Pro software. The emphasis is on understanding the structure and efficient storage of GIS data (feature classes and geodatabases) and how to work with multiple different types of spatial data (vector, raster, and tabular). Students learn geoprocessing techniques to transform data based on spatial relationships; different methods to classify data based on attributes; and how to perform basic calculations using spatial geometry. This is done through lectures and weekly labs using real world data. Permission of the instructor.

Rules & Requirements
IDEAs in Action Gen Ed: FC-QUANT, FC-LAB.
Grading Status: Letter grade.
Same as: ENEC 419.

ANTH 420. Public Archaeology. 3 Credits.
The aim of the course is to build an understanding of archaeology as a discipline that involves and affects the public. Among the areas to be covered are the implementation of federal, state, and other statutes, and the presentation of archaeological knowledge through museums and public media.

Rules & Requirements
Grading Status: Letter grade.

ANTH 421. Archaeological Geology. 3 Credits.
The application of geological principles and techniques to the solution of archaeological problems. Studies geological processes and deposits pertinent to archaeological sites, geologic framework of archaeology in the southeastern United States, and techniques of archaeological geology. Field trips to three or more sites; written reports required. Course previously offered as GEOL 421. Permission of the instructor.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 6 total credits. 2 total completions.
Grading Status: Letter grade.
Same as: EMES 421.

ANTH 422. Anthropology and Human Rights. 3 Credits.
An examination of human rights issues from an anthropological perspective, addressing the historical formation of rights, their cross-cultural context and the emergence of humanitarian and human rights organizations on a global scale.

Rules & Requirements
Grading Status: Letter grade.

ANTH 423. Written in Bone: CSI and the Science of Death Investigation from Skeletal Remains. 3 Credits.
This course combines laboratory training, field projects, lectures, films, discussion, and student presentations into a course on the science of human skeletal analysis. Students learn the laboratory methods scientists use to study human remains and the role of skeletal analysis in the study of contemporary forensic cases.

Rules & Requirements
Grading Status: Letter grade.

ANTH 424. Ritual, Festival, and Public Culture. 3 Credits.
This course explores rituals, festivals, and public cultural performances as forms of complex, collective, embodied creative expression. As sites of popular celebration, conflict resolution, identity definition, and social exchange, they provide rich texts for folkloristic study. We consider how local and global forces both sustain and challenge these forms.

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING or FC-VALUES, RESEARCH.
Grading Status: Letter grade.
Same as: FOLK 424.

ANTH 425. Public Archaeology Practicum. 3 Credits.
An opportunity for archaeology students to apply their field and/or lab skills to a semester long, team-based research project developed to address the needs of a community partner.

Rules & Requirements

IDEAs in Action Gen Ed: HI-SERVICE.
Requisites: Prerequisite, ANTH 410, 411, 420, 451 or CLAR 411; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

ANTH 426. Making Magic. 3 Credits.
Magic in anthropology and popular culture, from the 19th century to the present. Focuses on witchcraft and healing; arts of illusion; fantasy and (multiple) realities. Examines how realities are made and unmade through speech, rites, relations of power.

Rules & Requirements
Grading Status: Letter grade.

ANTH 427. Race. 3 Credits.
This course explores the history, politics, and social dimensions of race as a category. It examines the lived experience of race, racialization and racism, as well as the role of anthropology in contemporary and historic definitions of race.

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING or FC-POWER.
Grading Status: Letter grade.

ANTH 428. Religion and Anthropology. 3 Credits.
Religion studied anthropologically as a cultural, social, and psychological phenomenon in the works of classical and contemporary social thought. Honors version available.

Rules & Requirements
Grading Status: Letter grade.
Same as: FOLK 428, RELI 428.

ANTH 429. Culture and Power in Southeast Asia. 3 Credits.
The formation and transformation of values, identities, and expressive forms in Southeast Asia in response to forms of power. Emphasis on the impact of colonialism, the nation-state, and globalization.

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL or FC-POWER.
Grading Status: Letter grade.
Same as: ASIA 429, FOLK 429.

ANTH 430. War, Medicine, and the Military. 3 Credits.
This course provides anthropological perspectives on the interrelationships between medicine and medical research, military institutions, and war.

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING, RESEARCH.
Grading Status: Letter grade.

ANTH 432. Science and Society in the Middle East. 3 Credits.
This class explores science and society in the modern Middle East. Drawing on works from anthropology and history, it investigates how science interacts with, is shaped by, and reflects wider processes and formations such as nationalism, colonialism, religion, subject formation, or cultural production. Previously offered as ARAB 353.

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL or FC-KNOWING, RESEARCH.
Grading Status: Letter grade.
Same as: ARAB 432.

ANTH 437. Evolutionary Medicine. 3 Credits.
This course explores evolutionary dimensions of variation in health and disease in human populations. Topics include biocultural and evolutionary models for the emergence of infectious and chronic diseases and cancers.

Rules & Requirements
Grading Status: Letter grade.

ANTH 439. Political Ecology. 3 Credits.
Examines environmental degradation, hunger, and poverty through the lens of power relationships, particularly inequality, political and economic disenfranchisement, and discrimination. Discussion of global case studies, with a Latin American focus.

Rules & Requirements

IDEAs in Action Gen Ed: FC-POWER.
Grading Status: Letter grade.

ANTH 441. The Anthropology of Gender, Health, and Illness. 3 Credits.
The course explores cultural beliefs, practices, and social conditions that influence health and sickness of women and men from a cross-cultural perspective.

Rules & Requirements
Grading Status: Letter grade.
Same as: WGST 441.

ANTH 442. Health and Gender after Socialism. 3 Credits.
This course examines postsocialist experiences of the relationship between political, economic, social, and cultural transitions, and challenges in public health and gender relations.

Rules & Requirements
Grading Status: Letter grade.
Same as: WGST 440.

ANTH 443. Cultures and Politics of Reproduction. 3 Credits.
This course takes a cross-cultural approach to understanding how reproduction and associated phenomena become arenas where political debates are played out, and where global and local social relations are contested.

Rules & Requirements

IDEAs in Action Gen Ed: FC-POWER.
Grading Status: Letter grade.
Same as: WGST 443.

ANTH 444. Medicine, Politics, and Justice. 3 Credits.
This course brings an anthropological approach to understanding the intersections between medicine, politics, and public health.

Rules & Requirements
Grading Status: Letter grade.

ANTH 445. Migration and Health. 3 Credits.
This course examines the intersections between migration processes and the political, economic, and social dimensions of health and well-being among migrants, their families, and their communities.

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL or FC-POWER.
Grading Status: Letter grade.
Same as: WGST 445.

ANTH 446. Poverty, Inequality, and Health. 3 Credits.
This course examines poverty, inequalities, and health from a global and historical perspective. We will study the role of sociopolitical context, individual behavior, and human biology, and will pay particular attention to the roles of psychosocial stress, material conditions, and policy in shaping health differences within and between populations.

Rules & Requirements
Grading Status: Letter grade.

ANTH 447. The Anthropology of Work. 3 Credits.
Anthropological investigations of work and the relationship between work, family life, and community in contemporary societies in the United States, Asia, and Latin America, within the framework of globalization. Honors version available.

Rules & Requirements
Grading Status: Letter grade.

ANTH 448. Health and Medicine in the American South. 3 Credits.
This course examines ways we can understand the history and culture of a region through the experience of health and healthcare among its people. With an anthropological approach, this course considers the individual, social, and political dimensions of medicalized bodies in the American South from the 18th century through the current day.

Rules & Requirements

IDEAs in Action Gen Ed: FC-POWER.
Grading Status: Letter grade.

ANTH 449. Anthropology and Marxism. 3 Credits.
Critical study of Marx' mature social theory and its relationship to contemporary anthropology.

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING.
Grading Status: Letter grade.

ANTH 450. Ethnographic Research Methods. 3 Credits.
Students learn about methodologies of ethnographic research and put these into practice through a semester-long field research project. We explore the theoretical, ethical, and practical promises and challenges of ethnography, from problem definition and research design to data analysis and writing. Students collect and analyze ethnographic data using participant observation, fieldnotes, interviewing, visual methods, focus groups, archival and ethnographic survey research, and learn various strategies for organizing, coding, and presenting findings. Permission of the instructor for students lacking the prerequisite.

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING, RESEARCH.
Requisites: Prerequisite, ANTH 102, 142, 147, or 270.
Grading Status: Letter grade.

ANTH 451. Field School in North American Archaeology. 6 Credits.
Intensive training in archaeological field methods and techniques. Students participate in the excavation, recovery, recording, and interpretation of archaeological remains. Instruction given in survey, mapping, photography, flotation recovery, etc. Honors version available.

Rules & Requirements

IDEAs in Action Gen Ed: FC-PAST.
Grading Status: Letter grade.

ANTH 452. The Past in the Present. 3 Credits.
Memory and history, history and politics, national narratives, the past in the present, and the present in the past; a cross-cultural examination of ways of connecting the present and the past.

Rules & Requirements
Grading Status: Letter grade.

ANTH 453. Field School in South American Archaeology. 6 Credits.
Intensive study of archaeological field and laboratory methods and prehistory of the Andes through excavation and analysis of materials from archaeological sites in Peru. Includes tours of major archaeological sites. Honors version available.

Rules & Requirements
Grading Status: Letter grade.

ANTH 454. The Archaeology of African Diasporas. 3 Credits.
How is archaeological evidence used to understand the movement of Africans and their descendants across the globe? This course focuses on what archaeologists have learned about the transformation of societies on the African continent and in the Americas from the era of the trans-Atlantic slave trade to the present.

Rules & Requirements
Grading Status: Letter grade.

ANTH 457. Perspectives in Historical Archaeology. 3 Credits.
This class will examine the development of historical archaeology as a distinct subdiscipline as well as investigating how the field is being practiced currently around the world.

Rules & Requirements
Grading Status: Letter grade.

ANTH 458. Archaeology of Sex and Gender. 3 Credits.
Required preparation, at least one ANTH or one WMST course. A discussion of gender and sex roles and sexuality in past cultures; a cross-cultural examination of ways of knowing about past human behavior.

Rules & Requirements
IDEAs in Action Gen Ed: FC-POWER.
Grading Status: Letter grade.
Same as: WGST 458.

ANTH 459. Ecological Anthropology. 3 Credits.
Examines how human-environmental adaptations shape the economic, social, and cultural lives of hunter-gatherers, pastoralists and agriculturalists. Approaches include optimal foraging theory, political ecology and subsistence risk.

Rules & Requirements
Grading Status: Letter grade.
Same as: ENEC 459.

ANTH 460. Historical Ecology. 3 Credits.
Historical ecology is a framework for integrating physical, biological, and social science data with insights from the humanities to understand the reciprocal relationship between human activity and the Earth system.

Rules & Requirements
Grading Status: Letter grade.
Same as: ENEC 460.

ANTH 461. Colonialism and Postcolonialism: History and Anthropology. 3 Credits.
This course examines colonialism and postcolonialism through the lenses of history and anthropology respectively. Through history, it asks, What were the dynamics of colonialism then? Through anthropology, it questions, What are the conditions, quandaries, and possibilities of postcolonialism now? Regional focus varies by instructor and year.

Rules & Requirements
Grading Status: Letter grade.

ANTH 462. Archaeologies of Capitalism. 3 Credits.
This course explores the origins, development, and consequences of capitalism over the last five hundred years from an archaeological perspective. What this means is that we will use the relationships between peoples and material objects to understand this thing we now call "capitalism."

Rules & Requirements
IDEAs in Action Gen Ed: FC-PAST or FC-POWER.
Grading Status: Letter grade.

ANTH 463. Settler Colonialism. 3 Credits.
This class will be framed around readings that explore the varied impact of European settlement across the globe. In focusing on both the varied global legacies of colonialism and the continued sociopolitical movements of indigenous populations, this class will encourage a broad perspective on what settler colonialism looks like today.

Rules & Requirements
Grading Status: Letter grade.

ANTH 464. Life and Violence. 3 Credits.
Violence in human societies has been studied by social scientists for decades. Yet, how violence is defined and written about varies from discipline to discipline. In this course, we study violence in its many forms (e.g., political, ethnic, bodily, and religious), from an anthropological perspective. We will critically assess how the past and present violence affect everyday life and inform our perspectives about places and people that might be unfamiliar to us.

Rules & Requirements
Grading Status: Letter grade.

ANTH 470. Medicine and Anthropology. 3 Credits.
This course examines cultural understandings of health, illness, and medical systems from an anthropological perspective with a special focus on Western medicine.

Rules & Requirements
Grading Status: Letter grade.
Same as: FOLK 470.

ANTH 471. Biocultural Perspectives on Maternal and Child Health. 3 Credits.
This course explores maternal and child health from an evolutionary, biocultural, and global health perspective. It focuses on the physiological, ecological, and cultural factors shaping health and takes a life course perspective to examine childhood development, reproductive processes such as pregnancy, birth and lactation, and menopause and aging.

Rules & Requirements
Grading Status: Letter grade.

ANTH 473. Anthropology of the Body and the Subject. 3 Credits.
Anthropological and historical studies of cultural constructions of bodily experience and subjectivity are reviewed, with emphasis on the genesis of the modern individual and cultural approaches to gender and sexuality.

Rules & Requirements
Grading Status: Letter grade.
Same as: FOLK 473.

ANTH 474. The Anthropology of Disability. 3 Credits.
Investigates the social, cultural, and historical variation in the conception of disability, in its practical meaning and performance, and in its social and medical management. Special attention is paid to the interplay of embodiment, identity, and agency in work and everyday life and in political action and advocacy.

Rules & Requirements
Grading Status: Letter grade.

ANTH 477. Visual Anthropology. 3 Credits.
This course introduces students to visual forms of communication through both the analysis and production of still and video materials. Ethics, cross-cultural representations, and ethnographic theory will all be explored.

Rules & Requirements
Grading Status: Letter grade.

ANTH 484. Discourse and Dialogue in Ethnographic Research. 3 Credits.
Study of cultural variation in styles of speaking applied to collection of ethnographic data. Talk as responsive social action and its role in the constitution of ethnic and gender identities.

Rules & Requirements
Grading Status: Letter grade.
Same as: FOLK 484, LING 484.

ANTH 490. Undergraduate Seminar in Anthropology. 3 Credits.
The subject matter will vary with the instructor. Each course will concern itself with a study in contemporary anthropology and new directions in research or applications. Restricted to junior and senior anthropology majors; generally the course is limited to 18 students.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

ANTH 503. Gender, Culture, and Development. 3 Credits.
Classic writings and debates relating to gender and development, with emphasis on recent work that critiques conventional development models. The scope is global, with special attention to Latin America and to such questions as how alternative approaches to gender, culture, and development may be more inclusive of diverse peoples and grassroots movements for change.

Rules & Requirements
IDEAs in Action Gen Ed: FC-KNOWING.
Grading Status: Letter grade.
Same as: WGST 503.

ANTH 520. Linguistic Phonetics. 3 Credits.
Introduction to the general principles of linguistic phonetics; anatomy of vocal tract, physiology of speech production, universal phonetic theory. Practice in the recognition and transcription of speech sounds.

Rules & Requirements
IDEAs in Action Gen Ed: FC-NATSCI or FC-QUANT.
Grading Status: Letter grade.
Same as: LING 520.

ANTH 523. Phonological Theory I. 3 Credits.
Permission of the instructor for undergraduates. Introduction to the principles of modern generative phonology. Methods and theory of phonological analysis. Students may not receive credit for both LING 200 and LING 523.

Rules & Requirements
Requisites: Prerequisite, LING 520, or SPHS 530 or 540.
Grading Status: Letter grade.
Same as: LING 523.

ANTH 535. The Archaeology of Health and Well-Being. 3 Credits.
In this course, we will engage the juxtaposition between traditional cures and the institutionalized ones of the 21st century through analyzing earlier material manifestations of health care and well-being. We will trace the growth of medical care in America from the early colonial years, and consider how they resulted in wholly American circumstances and applications.

Rules & Requirements
IDEAs in Action Gen Ed: FC-PAST.
Grading Status: Letter grade.

ANTH 537. Gender and Performance: Constituting Identity. 3 Credits.
Examines the culturally and historically variable ways in which individuals constitute themselves as cis- or transgendered subjects, drawing upon extant expressive resources, modifying them, and expanding options available to others. Performance of self as the product of esthetically marked or unmarked, everyday actions.

Rules & Requirements
Grading Status: Letter grade.
Same as: FOLK 537, WGST 438.

ANTH 538. Disease and Discrimination in Colonial Atlantic America. 3 Credits.
Colonization of Atlantic America between 1500 and 1900, through landscape change, agriculture, poverty, labor discrimination, and slavery differentially placed subsets of the general population at risk for infectious disease and other insults to their health. Lecture and discussion using archaeological and bioarchaeological studies, modern disease studies, and historic documents.

Rules & Requirements
Grading Status: Letter grade.

ANTH 539. Environmental Justice. 3 Credits.
Course examining issues of race, poverty, and equity in the environmental movement. Cases include the siting of toxic incinerators in predominantly people-of-color communities to resource exploitation on indigenous lands.

Rules & Requirements
IDEAs in Action Gen Ed: HI-SERVICE.
Grading Status: Letter grade.

ANTH 540. Planetary Crises and Ecological and Cultural Transitions. 3 Credits.
Analysis of the social-environmental crisis and approaches to redress it, particularly those that posit ecological and cultural transitions beyond current models. The course will have an in-built, research component. Intended for upper-division undergraduates and graduate students.

Rules & Requirements
IDEAs in Action Gen Ed: FC-GLOBAL or FC-KNOWING.
Grading Status: Letter grade.

ANTH 541. Sociolinguistics. 3 Credits.
Introduction to the study of language in relation to society; variation as it correlates with socioeconomic status, region, gender; the social motivation of change; language and equality; language maintenance, planning, shift.

Rules & Requirements
Requisites: Prerequisite, LING 101 or 400.
Grading Status: Letter grade.
Same as: LING 541.

ANTH 550. Archaeology of the American South. 3 Credits.
Current issues and interpretations in the archaeology of the American South. Through weekly readings and discussions, students will explore the lifeways and changes that characterized each major period of the South's ancient history, from 12,000 years ago to the beginnings of European colonization.

Rules & Requirements
IDEAs in Action Gen Ed: FC-PAST.
Grading Status: Letter grade.

ANTH 551. Origins of Agriculture in the Ancient World. 3 Credits.
This course explores archaeological evidence for the origins of food production. We address when and where this profound change occurred as well as focusing on why it happened and what its consequences were. We will examine current evidence for the origins of agriculture in both Old and New Worlds.

Rules & Requirements
Grading Status: Letter grade.

ANTH 582. Fieldwork with Social Models of Well-Being. 3 Credits.
Required preparation, at least one introductory cultural medical anthropology course. This course highlights approaches and organizations that pursue well-being through social relations and social change, rather than through medical treatment and cure. Students will: 1) learn the conceptual understandings that inform social models of well-being in disability studies/disability rights, occupational science, and critical gerontology; and 2) learn and apply anthropological methods of participant-observation fieldwork and interviewing in local organizations that implement these social models.

Rules & Requirements
IDEAs in Action Gen Ed: FC-KNOWING or FC-POWER, HI-SERVICE.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

ANTH 585. Anthropology of Science. 3 Credits.
Cultural perspectives on science and technology at a global scale, including research settings and social contexts, knowledge claims and material practice, and relations between scientific worldviews, social institutions, and popular imagination.

Rules & Requirements
Grading Status: Letter grade.

ANTH 590. Special Topics in Anthropology I. 3 Credits.
Subject matter will vary with instructor but will focus on some particular topic or anthropological approach. Course description is available from the departmental office. Honors version available.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 6 total credits. 2 total completions.
Grading Status: Letter grade.

ANTH 623. Human Disease Ecology. 3 Credits.
This seminar considers cultural ecologies of disease by examining how social, cultural, and historical factors shape disease patterns. We examine how ecosystems are shaped by disease, how disease shapes ecosystems, and how cultural processes (e.g., population movements, transportation, economic shifts, landscape modifications, and built environments) contribute to emerging infectious disease.

Rules & Requirements
Grading Status: Letter grade.

ANTH 624. Anthropology and Public Health. 3 Credits.
This course compares disciplinary approaches of public health and anthropology. We begin by examining the social determinants of health paradigms and relationships between inequality, poverty, and global health. We will explore epidemiological, biocultural, and symbolic approaches to these problems. Public policy and health development will also be examined.

Rules & Requirements
IDEAs in Action Gen Ed: FC-KNOWING.
Grading Status: Letter grade.

ANTH 625. Ethnography and Life Stories. 3 Credits.
The course focuses on the practical and research uses of ethnography and oral history, emphasizing life histories, life stories, biographies, and how these intersect with communities.

Rules & Requirements
IDEAs in Action Gen Ed: HI-SERVICE.
Grading Status: Letter grade.

ANTH 649. Politics of Life and Death. 3 Credits.
The course examines intersections between life, death, and contemporary politics, with a historical focus on the health of populations. It combines theoretical discussions with comparative empirical cases in a global frame and includes a research component.

Rules & Requirements
Grading Status: Letter grade.

ANTH 651. Identity, Memory, and the Afterlife: The Space and Place of Death. 3 Credits.
Death is a universal event, yet treatment of the dead varies from society to society. This course will be directed at examining mortuary rituals, memory and identity, and the scientific study of the dead to interpret the space and place of death in archaeological contexts.

Rules & Requirements
Grading Status: Letter grade.

ANTH 674. Issues in Cultural Heritage. 3 Credits.
This course examines entanglements between the past and present from multiple and conflicting perspectives, highlighting an archaeological point of view. Models of participatory research are considered in relation to cultural heritage, and indigenous-rights perspectives are discussed in reference to archaeological, nation-state, and global interests.

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL or FC-PAST.
Grading Status: Letter grade.

ANTH 675. Ethnographic Method. 3 Credits.
Intensive study and practice of the core research methods of cultural and social anthropology.

Rules & Requirements
Grading Status: Letter grade.
Same as: FOLK 675.

ANTH 676. Research Methods in Human Biology. 3 Credits.
This course focuses on laboratory and field research methods in human biology. Through readings, in-class exercises, data collection outside of class, and laboratory analysis, students will examine issues of epistemology, ethics, data and biomarker collection methods, analysis and data processing. We will pay particular attention to issues of bias and validity, as well as precision and accuracy in human biology research.

Rules & Requirements
Grading Status: Letter grade.

ANTH 680. Quantitative Methods in Archaeology. 3 Credits.
Introduction to quantitative and computer methods in archaeology. The course stresses exploratory data analysis and graphical pattern recognition techniques. Previously offered as ANTH 726. Permission of instructor.

Rules & Requirements

IDEAs in Action Gen Ed: FC-QUANT.
Grading Status: Letter grade.

ANTH 682. Contemporary Chinese Society. 3 Credits.
Presents recent anthropological research on the People's Republic of China. In addition to social sciences sources, fictional genres are used to explore the particular modernity of Chinese society and culture.

Rules & Requirements
Grading Status: Letter grade.
Same as: ASIA 682.

ANTH 688. Observation and Interpretation of Religious Action. 3 Credits.
Permission of the instructor. Exercises (including field work) in learning to read the primary modes of public action in religious traditions, e.g., sermons, testimonies, rituals, and prayers.

Rules & Requirements
Grading Status: Letter grade.
Same as: FOLK 688, RELI 688.

ANTH 690. Special Topics in Anthropology II. 2-3 Credits.
Subject matter will vary with instructor but will focus on some particular topic or anthropological approach. Course description is available from the departmental office.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 6 total credits. 2 total completions.
Grading Status: Letter grade.

ANTH 691H. Seniors Honors Project in Anthropology. 3 Credits.
Seniors Honors Project in Anthropology. Permission of the instructor. Open only to honors candidates.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

ANTH 692H. Senior Honors Thesis in Anthropology. 3 Credits.
Senior Honors Thesis in Anthropology. Permission of the instructor is required. Open only to senior honors candidates.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

Graduate-level Courses

ANTH 700. Advanced Survey of Anthropology. 3 Credits.
Course description is available from the departmental office.

Rules & Requirements
Grading Status: Letter grade.

ANTH 701. Theory and Ethnography. 3 Credits.
Development of a critical understanding of integrating anthropological evidence and contemporary theory to develop persuasive arguments for archaeology, human biology and ethnography Permission of the instructor.

Rules & Requirements
Grading Status: Letter grade.

ANTH 702. Sociocultural Theory and Ethnography. 3 Credits.
Rules & Requirements
Requisites: Prerequisite, ANTH 701; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

ANTH 703. Evolution and Ecology. 3 Credits.
Permission of the instructor. Development of a critical understanding of anthropological approaches to evolution and ecology in paleontological, archaeological, and present-day crosscultural contexts through the historical and comparative study of theory, method, and content.

Rules & Requirements
Grading Status: Letter grade.

ANTH 704. Evolution and Ecology. 3 Credits.
Continuation of topics covered in 703, with an emphasis on ecological and evolutionary perspectives on contemporary human biology and behavior.

Rules & Requirements
Requisites: Prerequisite, ANTH 703; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

ANTH 705. Archaeological Theory. 3 Credits.
Review of the recent history of archaeology and contemporary approaches to archaeological interpretation.

Rules & Requirements
Grading Status: Letter grade.

ANTH 706. The Practice of Anthropology - Professionalization Seminar. 3 Credits.
This professionalization seminar covers a range of practical skills and processes (e.g. grant writing, teaching, research methods, academic publishing, career placement, etc.) necessary for functioning and thriving in a career in anthropology. The fall and spring course is required for first-year students and serves as a locus of professional training and departmental culture. Anthropology graduate students only.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

ANTH 710. Writing and Publishing in Anthropology. 3 Credits.
A seminar on the peer review and analysis of student writing. Training in writing for academic publication.

Rules & Requirements
Grading Status: Letter grade.

ANTH 711. Feminist Ethnography. 3 Credits.
This graduate seminar considers issues in qualitative research methodology through reading and discussing feminist ethnographies and critical assessments of such work. Asks questions about interdisciplinarity and the dilemmas of field research and writing. Highlights the feminist politics of positionality of the researcher and the ethnographic representation of subjects of research.

Rules & Requirements
Grading Status: Letter grade.

ANTH 714. Current Issues in Participatory Research: A Workshop Course. 1 Credits.
This one-hour course is open to UNC graduate students interested in Participatory Research (PR). It is required for the Graduate Certificate in PR and designed to integrate new students into the intellectual discussions and the PR community on campus.

Rules & Requirements
Repeat Rules: May be repeated for credit. 2 total credits. 2 total completions.
Grading Status: Letter grade.

ANTH 715. Feminism and Society. 3 Credits.
Selected topics in feminist analysis of social life, with materials drawn from a global range of societies.

Rules & Requirements
Grading Status: Letter grade.
Same as: WGST 715.

ANTH 717. Advanced Studies in Art and Architecture. 3 Credits.
Intensive study of selected topics and issues in the analysis and interpretation of prehistoric and cross-cultural art, architecture, and other aesthetic forms.

Rules & Requirements
Requisites: Prerequisite, ANTH 334; Permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

ANTH 723. Seminar in Anthropological Linguistics. 3 Credits.
Selected topics from general linguistics and sociolinguistics, special emphasis on methods and problems involved in analysis and description of semantic structure of language and its relation to the rest of culture.

Rules & Requirements
Grading Status: Letter grade.
Same as: LING 723.

ANTH 724. Seminar in Anthropology and Cybernetics. 3 Credits.
Examination of systems theory, or cybernetics; evaluation of previous applications of cybernetic models in anthropology; and original analysis of anthropological data in these terms by students.

Rules & Requirements
Grading Status: Letter grade.

ANTH 725. Quantitative Methods in Anthropology. 3 Credits.
Survey of standardized data-gathering techniques, problems in research design, and methods of quantitative analysis encountered in anthropological research.

Rules & Requirements
Grading Status: Letter grade.

ANTH 727. Archaeology of North America. 3 Credits.
The history of American Indian cultures from 10,000 BCE to the time of the European colonization as reconstructed by archaeological research. Special emphasis on the eastern and southwestern United States.

Rules & Requirements
Grading Status: Letter grade.

ANTH 728. Seminar in American Archaeology. 3 Credits.
This seminar covers current research topics in North American archaeology, with an emphasis on the eastern or southwestern United States. Specific topics may vary from year to year.

Rules & Requirements
Grading Status: Letter grade.

ANTH 729. Research Strategies in Archaeology. 3 Credits.
This seminar develops student's skills in crafting research designs, proposals, and presentations. Examples and readings focus on archaeology and bioarchaeology but the skills covered are widely applicable.

Rules & Requirements
Grading Status: Letter grade.

ANTH 733. Advanced Seminar in Caribbean Studies. 3 Credits.
Permission of the instructor. Survey of Caribbean cultural development for students with some knowledge or experience in the area. Particular attention is given to current problems and recent theoretical issues.

Rules & Requirements
Grading Status: Letter grade.

ANTH 740. Power. 3 Credits.
Theories of power within anthropology, from Marxism, poststructuralism, feminist studies, studies in race relations, cultural studies, others.

Rules & Requirements
Grading Status: Letter grade.

ANTH 744. Seminar in Ethnicity and Cultural Boundaries. 3 Credits.
Investigation of recent theoretical approaches to ethnic phenomena; consideration of cases ranging from tribal organization to complex industrial nations; analysis of particular ethnographic and ethnohistorical situations by individual students.

Rules & Requirements
Grading Status: Letter grade.

ANTH 749. Cultural Production. 3 Credits.
Critical examination of theories of social and cultural (re)production (e.g., Bourdieu's practice theory, cultural studies, and resistance theory) applied to enduring issues (e.g., the relations between power and gender, race, and class).

Rules & Requirements
Grading Status: Letter grade.

ANTH 750. Seminar in Medical Anthropology. 3 Credits.
Specially designed for, but not restricted to, students who are specializing in medical anthropology. Medicine as part of culture; medicine and social structure viewed crossculturally; medicine in the perspective of anthropological theory; research methods. A special purpose is to help students plan their own research projects, theses, and dissertations.

Rules & Requirements
Grading Status: Letter grade.

ANTH 751. Seminar on the Anthropological Contribution to the Understanding of Medical Systems. 3 Credits.
Anthropological contributions to the understanding of medical systems, sickness, and public health. Attention is given to the ways in which medical anthropology illuminates social processes, beliefs, and ideologies.

Rules & Requirements
Grading Status: Letter grade.

ANTH 752. Transcultural Psychiatry. 3 Credits.
Considers cross-cultural variations in the perception, definition of, and reaction to course and treatment of deviant behavior--especially mental disorders.

Rules & Requirements
Requisites: Prerequisite, ANTH 470 or 525; Permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

ANTH 753. Gender, Sickness, and Society. 3 Credits.
This seminar deals in depth and cross-culturally with the nature of gender and the ways in which social comprehension of gender, gender status, and gender relationships impinge upon differential experience of health and sickness of men and women from a historical and contemporary perspective.

Rules & Requirements
Grading Status: Letter grade.
Same as: WGST 753.

ANTH 754. Phenomenological Anthropology. 3 Credits.
Permission of the instructor. The course aims to apply the theories and methods of phenomenology to the practice of anthropology.

Rules & Requirements
Grading Status: Letter grade.

ANTH 755. Seminar in Ecology and Population. 3 Credits.
Mutual relationships of environment, social structure, mortality, and natality, reviewed in an evolutionary framework.

Rules & Requirements
Grading Status: Letter grade.

ANTH 756. The Evolution of Human Cognition. 3 Credits.
Permission of the instructor. A critical exploration of contemporary evidence on the evolution of human cognition and consciousness, including phylogenetic, comparative (interspecific), ontogenetic, and cross-cultural perspectives.

Rules & Requirements
Grading Status: Letter grade.

ANTH 759. Identity and Agency. 3 Credits.
Sociogenic theories of identity, agency, and human consciousness - the works of Mikhail Bakhtin, Pierre Bourdieu, and others - examined ethnographically and cross-culturally in selected fields of social activity.

Rules & Requirements
Grading Status: Letter grade.

ANTH 760. Seminar in Human Evolutionary Ecology. 3 Credits.
Permission of the instructor for undergraduates. Examination of evolutionary ecology concepts with existing or potential uses in human adaptation research, including adaptation and optimization, effective environmental properties, foraging strategies, niche, competitive exclusion, life history tactics, and biogeography.

Rules & Requirements
Grading Status: Letter grade.

ANTH 765. Seminar in the Anthropology of Law. 3 Credits.
This course analyzes the nature of law and conceptions of authority in various Asian, African, and American preliterate societies. Using theories of social cohesion and process, the course relates law to the economy, social organization, religious ideology, and political institutions.

Rules & Requirements
Grading Status: Letter grade.

ANTH 766. SEMINAR IN ETHNOBOTANY. 3 Credits.
Permission of the instructor. The focus is on economic plants and primitive technology, ecological relationships between man and plants, and analysis and interpretation of archaeological plant remains. Some laboratory work is expected.

Rules & Requirements
Grading Status: Letter grade.

ANTH 770. Seminar on Anthropological Perspectives on Latin America. 3 Credits.
The seminar focuses on the interaction of five major issues in Latin America: class, ethnicity, gender, religion, and health.

Rules & Requirements
Grading Status: Letter grade.

ANTH 777. Human Rights and Humanitarianism. 3 Credits.
This seminar examines human rights claims and contemporary moral discourse about human suffering from the perspective of anthropology.

Rules & Requirements
Grading Status: Letter grade.

ANTH 788. Observation and Interpretation of Religious Action. 3 Credits.
Explores religious action through field work as a way of studying method and theory.

Rules & Requirements
Grading Status: Letter grade.

ANTH 790. Dialectology. 3 Credits.
Principles and methods of areal linguistics and social dialectology.

Rules & Requirements
Grading Status: Letter grade.
Same as: LING 790.

ANTH 793. Linguistic Field Methods I. 3 Credits.
Analysis and description of a language unknown to the class from data solicited from a native-speaker consultant.

Rules & Requirements
Grading Status: Letter grade.

ANTH 808. Researching and Writing Lives. 3 Credits.
The course focuses on developing students' qualitative and analytic research skill through a project that culminates in writing a life story. Students will design a research plan, develop a research relationship with an interlocutor, hone methodological techniques, discuss ethical concerns, strengthen analytic interpretation, and produce a polished life narrative.

Rules & Requirements
Grading Status: Letter grade.

ANTH 809. Ethnographic Methods. 3 Credits.
Explores method and theory of ethnographic research, including its critical development, ethical challenges, personal transformations, and place as social scientific inquiry. Field project required.

Rules & Requirements
Grading Status: Letter grade.

ANTH 810. Seminar in the Anthropology of Meaning. 1 Credits.
Ongoing seminar for students and faculty participating in the Anthropology of Meaning concentration.

Rules & Requirements
Grading Status: Letter grade.

ANTH 817. The Concept of Teaching General Anthropology. 3 Credits.
Permission of the department. Directed course preparation and review of teaching techniques, films, and other aids.

Rules & Requirements
Grading Status: Letter grade.

ANTH 818. Training in the Teaching of Anthropology. 3 Credits.
Permission of the department. The trainee teaches a small class in general anthropology under supervision.

Rules & Requirements
Requisites: Prerequisite, ANTH 817.
Grading Status: Letter grade.

ANTH 850. Engaging Ethnography. 3 Credits.
What is engaged ethnography? We often speak of engaged research, but what does it look like on the ground? How is it represented through textual narrative? And what difference does it make in the "real" world? In this seminar students "engage" these questions in an examination of ethnographies produced by politically- and community-engaged researchers, exploring how methodologies, epistemologies, and the products of research are transformed by various forms of engagement.

Rules & Requirements
Grading Status: Letter grade.

ANTH 860. Art of Ethnography. 3 Credits.
A field-based exploration of the pragmatic, ethical, and theoretical dimensions of ethnographic research, addressing issues of experience, aesthetics, authority, and worldview through the lens of cultural encounter. Field research required.

Rules & Requirements
Grading Status: Letter grade.
Same as: FOLK 860.

ANTH 893. Internship/Practicum in Applied Anthropology. 1-3 Credits.
This course facilitates training through internships and practicums in applied anthropology. To receive credit, students must obtain approval from the Director of Graduate Studies prior to the internship/practicum. The internship/practicum is meant to help students bridge from their academic training to practical applications of their knowledge in the world beyond. The internship/practicum should be designed and carried out with partnering organizations. Anthropology graduate students only. Approval required.

Rules & Requirements
Repeat Rules: May be repeated for credit. 9 total credits. 9 total completions.
Grading Status: Letter grade.

ANTH 897. Seminar in Selected Topics. 1-4 Credits.
Topic determined by instructor and announced in advance.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

ANTH 898. Seminar in Selected Topics. 1-4 Credits.
Topic determined by instructor and announced in advance.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

ANTH 901. Reading and Research. 1-4 Credits.
Permission of the instructor. Topic determined by instructor and announced in advance.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

ANTH 902. Reading and Research. 1-4 Credits.
Permission of the instructor. Topic determined by instructor and announced in advance.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

ANTH 915. Reading and Research in Methodology. 1-4 Credits.
Permission of the instructor. Topic determined by instructor and announced in advance.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

ANTH 916. Reading and Research in Methodology. 1-4 Credits.
Permission of the instructor. Topic determined by instructor and announced in advance.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

ANTH 921. Field Research. 3 Credits.
Permission of the instructor. Topic determined by instructor and announced in advance.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

ANTH 922. Field Research. 3 Credits.
Permission of the instructor. Topic determined by instructor and announced in advance.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

ANTH 993. Master's Research and Thesis. 3 Credits.
Individual research in a special field under the direction of a member of the department.

Rules & Requirements
Repeat Rules: May be repeated for credit.

ANTH 994. Doctoral Research and Dissertation. 3 Credits.
Individual research in a special field under the direction of a member of the department.

Rules & Requirements
Repeat Rules: May be repeated for credit.

Contact Information

Department of Anthropology
Visit Program Website (http://anthropology.unc.edu)

Chair
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DEPARTMENT OF APPLIED PHYSICAL SCIENCES (GRAD)

The Department of Applied Physical Sciences combines applied science and engineering to solve real problems for North Carolina and the world through technology, innovation and partnerships, and the preparation of knowledgeable and responsible students, citizens, and researchers. The department expands interdisciplinary research and teaching by strengthening an intellectual climate in which science is collaborative and focused on applications.

The doctoral program in materials science is an interdisciplinary graduate program that brings together faculty members from chemistry, mathematics, physics and astronomy, and various departments across the University to engage in research and training in applications of the physical sciences. The primary areas of emphasis in the program are optical and electronic materials, nanomaterials, polymers, and biomaterials. Students pursuing Ph.D. degrees in materials science begin their studies with a core curriculum covering the fundamentals of materials, including their structures, surfaces, fabrication, thermodynamics, and materials science laboratory techniques. They continue with elective courses offered within APS or other departments as appropriate to their area of research concentration. Graduate students engage in research under the supervision of one of the participating materials science faculty in APS.

APS is also home to BeAM (https://beam.unc.edu) (Be A Maker), the UNC network of makerspaces.

Research Interests

The four areas of research emphasized in the program are electronic, nano, polymer, and biomaterials. These four areas are not discrete, however, as research projects in solar energy, soft and biological matter, structural materials, optical engineering and neuroscience, data science and computational modeling demonstrate. Individual faculty members typically have research interests in more than one of the primary areas, and collaborate with others to address several grand challenges. For detailed information on the graduate program, please email (apsssm@unc.edu) or call the graduate program coordinator at (919) 966-2291.

Facilities and Equipment

Students and faculty members have access to state-of-the-art central facilities for materials synthesis, processing and characterization. These capabilities are located within individual research laboratories and, especially, within the Chapel Hill Analytical and Nanofabrication Laboratory (CHANL (https://chanl.unc.edu)). Faculty and students also have access to the expertise, tools, and equipment in BeAM (https://beam.unc.edu/) (Be A Maker), the network of UNC campus makerspaces.

Fellowships and Assistantships

Research and teaching assistantships are available to qualified graduate students. The duties of teaching assistants can include guiding students in BeAM (https://beam.unc.edu) (Be A Maker, the UNC–Chapel Hill network of makerspaces) and teaching laboratory sections, and assisting in the supervision of advanced laboratories, teaching recitation sections, and grading papers. Summer support is generally available. A variety of fellowships (https://gradschool.unc.edu/funding/gradschool/fellowshipsandgrants.html) are available.

Degree Requirements

The Ph.D. degree requirements include completion of a suitable set of courses, literature review, prospectus, a first doctoral oral exam, an original research project culminating in a dissertation, and a final oral exam. The general regulations of The Graduate School govern credit hour, residency, and examination requirements.

Courses

All graduate students must pass the following courses, or must have passed their equivalents elsewhere:

Code	Title	Hours
MTSC 710	Materials Science First Year Seminar: Resources for success in your PhD program	1
MTSC 711	Materials Science First Year Seminar: Developing your plan for success	1
MTSC 718	Seminar in Materials Science and Engineering	1
MTSC 780	Advanced Materials Science	3
MTSC 785	Introduction to Scientific Computing for Materials	3

Each student also takes additional courses offered by Applied Physical Sciences (APS) or participating departments, as appropriate for his or her area of study.

Literature Review

At the end of the first year students write a literature review. The literature review is intended to prepare students and their advisor for their specific research, the oral defense, which will take place towards the end of the second year, and future publications.

Prospectus and First Doctoral Oral Exam

There are two oral exams. The first oral exam is coordinated with the student's doctoral advisory committee (DAC). The oral exam will ascertain if the student has acquired the knowledge and skills needed to be successful in research. Two weeks prior to the exam students submit a written prospectus to their DAC. The prospectus describes a detailed research proposal.

The first oral exam includes a 45-minute presentation of the student's research project aim in the context of the existing literature and research results to date. It is recommended that students also present their possible next steps (future work!) and elaborate on what is needed in order to be successful in their research. For example, it could be that the research would benefit from an internship at another university or industrial partner, or from collaborative research at one of the national labs. Committee members review proposals and research plans during the oral exam, ask questions, and give suggestions and feedback.

Dissertation and Final Oral Exam

The final oral exam is coordinated with the student's DAC and is a defense of the research thesis.

Professors

Theo J. Dingemans, High-Performance Polymers and (Nano)composites
Jinsong Huang, Perovskite Solar Cells, Photodetectors, X-ray Imaging, Radiation Detectors, Electronic Devices

Rene Lopez (Physics and Astronomy), Optical Materials, Photonic Structures, Photovoltaics
Richard Superfine, Biological Physics, Soft Matter, Biomedical Device Technologies

Associate Professors

Ronit Freeman, Development of Novel Designer Materials Using Self-Assembling Biological Components
Daphne Klotsa, Computational Soft and Active Matter
Nico Pegard, Computational Optics, Imaging Systems, Optical Instrumentation and Digital Interfaces for Systems Biology and Neuroscience

Assistant Professors

Wubin Bai, Bioelectronics, Soft Materials, Advanced Manufacturing, Microsystems, Electronic Materials, Photonic Materials, and Biomaterials
Ehssan Nazockdast, Modeling/Simulation of Biophysical Phenomena
Youhong (Nancy) Guo, Materials Science and Engineering, Separation Processes, Renewable Energy Harvesting and Utilization, Advanced Manufacturing

Teaching Associate Professor

Richard Goldberg, Assistive Technology, Rehabilitation Engineering, Engineering Education

Teaching Assistant Professor

Alexis Gillmore, Engineering Education, Epistemology, Design, Soil Biogeochemistry

Professor of the Practice

Dedric Carter, Vice Chancellor, Innovation, Entrepreneurship and Economic Development and Chief Innovation Officer, Systems Applications to Technical, Business and Policy Issues with an Emphasis on the Entrepreneurial Process, Innovation and New Venture Creation
Glenn Walters, Instrumentation for Innovation, BeAM Design and Innovation Hub, Engineering Education

Affiliated Faculty

James Cahoon (Chemistry), Nanoparticle Synthesis and Characterization
Praneeth Chakravarthula (Computer Science), Optics, Perception, Graphics, Optimization, Machine Learning
Orlando Coronell (Environmental Sciences and Engineering), Wet Chemistry, Polymer Synthesis, Membrane Systems
Greg Forest (Mathematics), Flow and Structure of Complex Polymeric Fluids
Boyce Griffith (Mathematics and Biomedical Engineering), Cardiovascular Modeling and Simulation
Yun Li (Genetics and Biostatistics), Statistical Methods and Computational Tools and Applications to Genetic Dissection of Complex Diseases
Jianping Lu (Physics), Nanotechnology, Carbon Nanotube X-rays, Tomosynthesis and Computed Tomography
Gerald Meyer (Chemistry), Inorganic Materials, Spectroscopy, and Electrochemistry
Cass T. Miller (Environmental Sciences and Engineering), Environmental Physics, Soft Matter, Continuum Mechanics, Applied Mathematics, Computational Science
J. Michael Ramsey (Chemistry), Analytical Chemistry, Microfabricated Chemical Instrumentation, Microfluidics, Nanofluidics
Jose Rodríguez-Romaguera (Neuroscience Center), Neuronal Circuits, Imaging, Optogenetics
Edward T. Samulski (Chemistry), Liquid Crystals and Liquid Crystal Polymers
Alexander Tropsha (Eshelman School of Pharmacy), Computational Chemistry, Cheminformatics and Structural Bioinformatics
Scott Warren (Chemistry), 2D Materials, Energy Storage, Solar Energy, Nanoelectronics, Supramolecular and Solid-State Chemistry for Materials Design
Yue Wu (Physics and Astronomy), Water and Gas Configuration at a Nanometric Level
Wei You (Chemistry), Organic and Polymer Synthesis, Organic Solar Cells, Molecular Electronics, Organic Spintronics

APPL

Advanced Undergraduate and Graduate-level Courses

APPL 405. Convergent Engineering: Team-Science Approaches to Discovery and Innovation. 3 Credits.
Students will participate in activities, group discussion, and problem-solving coaching to understand how chemistry, physics, materials science, and biology are applied to engineering. Topics are introduced through discussing relevant scientific literature, and guest lecturers and faculty discuss expertise in fields like mathematical modeling, mechanical engineering, or circuit design. Guest lecturers can provide new perspective on the problems, so students gain an interdisciplinary view of the subject.

Rules & Requirements
Grading Status: Letter grade.

APPL 412. Turning Your Entrepreneurial Ideas Into Reality. 3 Credits.
Students will work in groups on a semester project to turn their entrepreneurial ideas into reality.

Rules & Requirements

IDEAs in Action Gen Ed: FC-CREATE.
Requisites: Prerequisite, APPL 110; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

APPL 430. Optoelectronics from Materials to Devices. 3 Credits.
At the intersection between electrical engineering, optics, and computer science, this course explores how optoelectronic materials can be turned into optoelectronic devices to build high performance optical instruments. The course features many hands-on activities that include electronics, with the study of sensors operating under low light and high noise conditions, custom optical system design, imaging and holography systems, as well as computational imaging techniques using MATLAB (basic programming experience in any language is sufficient).

Rules & Requirements
Requisites: Prerequisite, MATH 383.
Grading Status: Letter grade.

APPL 435. Nanophotonics. 3 Credits.
This course introduces the principles of nanophotonics - an emerging frontier at the nexus of nanotechnology and photonics that deals with light-matter interactions at the nanometer scale. The course will cover the theoretical foundations of nanoscale materials and optics, fabrication and characterization of optical nanostructures, plasmonics, nanomanipulation by optical tweezers, electrodynamic simulations, nanoscale light emitters, and applications of nanophotonics.

Rules & Requirements
Requisites: Prerequisite, PHYS 117 or 119.
Grading Status: Letter grade.

APPL 462. Engineering Materials: Properties, Selection and Design. 3 Credits.
This course will cover both fundamental and applied aspects of modern materials science. We will discuss how to select materials based on their properties and how they can be processed into products that you encounter in everyday life. A strong focus will be on the relationship between processing, structure (development), and properties of solid materials, such as metals, ceramics, and polymers.

Rules & Requirements
Requisites: Prerequisite, CHEM 102; or PHYS 116 or PHYS 118.
Grading Status: Letter grade.

APPL 463. Bioelectronic Materials. 3 Credits.
Developing electronic systems that can seamlessly integrate with biological systems represents a pivotal foundation for building a smart healthcare platform, advanced clinical technology, and beyond. Through multiple hands-on projects, this course will explore and discuss: 1) electronic materials, mechanisms, and designs at the biotic-abiotic interface, 2) their impacts for a wide range of applications ranging from medicine, robotics, to human augmentation, and 3) the associated ethics that aim to harmonize the development pathways.

Rules & Requirements
Requisites: Prerequisites, BMME 209 or APPL 260 or CHEM 102 and PHYS 115 or PHYS 119 and permission of the instructor.
Grading Status: Letter grade.

APPL 465. Engineering of Soft Materials: SpongeBob Squarepants and Other Squishy Things. 3 Credits.
What kind of material is Sponge Bob? What about his pet snail, Gary? We are taught that there are solids, liquids, and gases. However, some materials challenge this description, such as foams, plastics, pastes, skin, hair, and nails. These are soft materials, and they are everywhere: sunscreen, insulation, and car tires. In this course, we will learn about soft materials' properties, how they are processed in industry, and how to design novel soft materials.

Rules & Requirements
Grading Status: Letter grade.

APPL 467. Materials Design for Biomedicine. 3 Credits.
The 21st century has already been marked with substantial discoveries in the interface of materials science, biology, and medicine that have a profound effect on our future. The course will focus on all classes of biological materials such as: biologically derived materials, natural and synthetic biomaterials, and bioinspired materials. In addition, the course will highlight the use of nanoscale materials and techniques to rapidly advance our understanding of human biology and the practice of medicine.

Rules & Requirements
Requisites: Prerequisite, CHEM 102.
Grading Status: Letter grade.

APPL 490. Special Topics. 1-3 Credits.
Topics vary from semester to semester.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 9 total credits. 9 total completions.
Grading Status: Letter grade.

APPL 493. Internship in Applied Physical Sciences. 3 Credits.
An ideal internship provides students with practical experience in an organization outside of UNC, doing work that is relevant to their UNC education. The internship should develop and enhance the students' professional skill sets and involve experiences that allow students to have responsibility for results that are of value to the organization.

Rules & Requirements
IDEAs in Action Gen Ed: HI-INTERN.
Grading Status: Letter grade.

APPL 495. Mentored Research in Applied Sciences and Engineering. 3 Credits.
Students undertake independent research with a faculty mentor. In order to register for this class, students must submit a learning contract and research proposal for approval. At the end of the semester, students submit a final report that describes their research. Students are encouraged to present their work either internally at UNC or externally at a conference or symposium.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

APPL 496. Independent Study in Applied Sciences and Engineering. 1-3 Credits.
Permission of the director of undergraduate studies is required. Independent study under a member of the applied physical sciences faculty. Approved learning contract required.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 6 total completions.
Grading Status: Letter grade.

APPL 590. Special Topics in Applied Physical Sciences. 3 Credits.
Advanced specialty topics in applied physical sciences for undergraduates and graduates.

Rules & Requirements
Repeat Rules: May be repeated for credit. 12 total credits. 4 total completions.
Grading Status: Letter grade.

APPL 690. Special Topics in Applied Physical Sciences. 3 Credits.
Advanced specialty topics in applied physical sciences for undergraduate and graduates.

Rules & Requirements
Repeat Rules: May be repeated for credit. 12 total credits. 4 total completions.
Grading Status: Letter grade.

Graduate-level Courses

APPL 710. Design and Making for the Researcher. 3 Credits.
In this course intended for graduate student researchers, we will parallel the discovery process taught in APPL 110: human-centered design, needs identification, and the iterative design and prototyping process. You will learn technical areas common to research laboratories - hardware selection, gas and liquid management, material compatibilities, electronics and data acquisition. In addition to the BeAM makerspace focused skills development activities, students will work on a personal project related to their laboratory work or research topic.

Rules & Requirements
Grading Status: Letter grade.

APPL 760L. Nanofabrication/micro-electromechanical systems (MEMS) Laboratory. 2 Credits.
Permission of the instructor. A laboratory course covering fabrication technologies for building materials and structures in biomedical devices, electronics, MEMS, and nanomedicine. The course includes lectures on thin film deposition, etching, and photolithography and hands-on laboratories to apply knowledge and practice skills covered in the lectures.

Rules & Requirements
Grading Status: Letter grade.

APPL 763. Bioelectronic materials. 3 Credits.
Developing electronic systems that seamlessly integrate with biological systems represents a pivotal foundation for building a smart healthcare platform, advanced clinical technology, and beyond. This course will explore: 1) electronic materials, mechanisms, and designs at the biotic-abiotic interface, 2) their impacts for a wide range of applications from medicine, robotics, to human augmentation, and 3) the associated ethics. It will also highlight a multifaceted understanding of materials and their integration strategies that improve functionalities (sensing, stimulation, or others) of fabricated devices, and innovate the ways electronics interact with biological counterparts. We will utilize BeAM makerspace for implementing our hands-on activities.

Rules & Requirements
Requisites: Prerequisites, an introductory materials sciences class such as BMME 209 or APPL 260; or CHEM 102 and PHYS 115/PHYS 119 and permission of the instructor.
Grading Status: Letter grade.

MTSC

Advanced Undergraduate and Graduate-level Courses

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Rules & Requirements
Grading Status: Letter grade.

APPL 412. Turning Your Entrepreneurial Ideas Into Reality. 3 Credits.
Students will work in groups on a semester project to turn their entrepreneurial ideas into reality.

Rules & Requirements
IDEAs in Action Gen Ed: FC-CREATE.
Requisites: Prerequisite, APPL 110; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

APPL 430. Optoelectronics from Materials to Devices. 3 Credits.
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Requisites: Prerequisite, MATH 383.
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This course introduces the principles of nanophotonics - an emerging frontier at the nexus of nanotechnology and photonics that deals with light-matter interactions at the nanometer scale. The course will cover the theoretical foundations of nanoscale materials and optics, fabrication and characterization of optical nanostructures, plasmonics, nanomanipulation by optical tweezers, electrodynamic simulations, nanoscale light emitters, and applications of nanophotonics.

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Rules & Requirements
Requisites: Prerequisite, CHEM 102; or PHYS 116 or PHYS 118.
Grading Status: Letter grade.

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Rules & Requirements
Requisites: Prerequisites, BMME 209 or APPL 260 or CHEM 102 and PHYS 115 or PHYS 119 and permission of the instructor.
Grading Status: Letter grade.

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Grading Status: Letter grade.

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The 21st century has already been marked with substantial discoveries in the interface of materials science, biology, and medicine that have a profound effect on our future. The course will focus on all classes of biological materials such as: biologically derived materials, natural and synthetic biomaterials, and bioinspired materials. In addition, the course will highlight the use of nanoscale materials and techniques to rapidly advance our understanding of human biology and the practice of medicine.

Rules & Requirements
Requisites: Prerequisite, CHEM 102.
Grading Status: Letter grade.

APPL 490. Special Topics. 1-3 Credits.
Topics vary from semester to semester.

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An ideal internship provides students with practical experience in an organization outside of UNC, doing work that is relevant to their UNC education. The internship should develop and enhance the students' professional skill sets and involve experiences that allow students to have responsibility for results that are of value to the organization.

Rules & Requirements
IDEAs in Action Gen Ed: HI-INTERN.
Grading Status: Letter grade.

APPL 495. Mentored Research in Applied Sciences and Engineering. 3 Credits.
Students undertake independent research with a faculty mentor. In order to register for this class, students must submit a learning contract and research proposal for approval. At the end of the semester, students submit a final report that describes their research. Students are encouraged to present their work either internally at UNC or externally at a conference or symposium.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

APPL 496. Independent Study in Applied Sciences and Engineering. 1-3 Credits.
Permission of the director of undergraduate studies is required. Independent study under a member of the applied physical sciences faculty. Approved learning contract required.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 6 total completions.
Grading Status: Letter grade.

APPL 590. Special Topics in Applied Physical Sciences. 3 Credits.
Advanced specialty topics in applied physical sciences for undergraduates and graduates.

Rules & Requirements
Repeat Rules: May be repeated for credit. 12 total credits. 4 total completions.
Grading Status: Letter grade.

APPL 690. Special Topics in Applied Physical Sciences. 3 Credits.
Advanced specialty topics in applied physical sciences for undergraduate and graduates.

Rules & Requirements
Repeat Rules: May be repeated for credit. 12 total credits. 4 total completions.
Grading Status: Letter grade.

MTSC 615. Structure of Solids. 3 Credits.
Crystallography, reciprocal lattices, Bloch waves, band structure, electronic wave functions, phonons, thermal expansion. Superlattice structures, including liquid crystals. Overview of properties of ceramic, amorphous, polymeric, and composite materials.

Rules & Requirements
Grading Status: Letter grade.

Graduate-level Courses

MTSC 710. Materials Science First Year Seminar: Resources for success in your PhD program. 1 Credits.
The Materials Science graduate student seminar series is a 1-credit course required for first year MTSC students. It is designed to expose students to APS research and key resources and skills outside of course work that they will need to be successful in the PhD program and beyond. Sessions will include research talks by APS faculty, workshops by invited speakers internal and external to UNC, and presentations by second year PhD students.

Rules & Requirements
Grading Status: Letter grade.

MTSC 711. Materials Science First Year Seminar: Developing your plan for success. 1 Credits.
Students gain knowledge and learn key skill-sets outside of their technical course work needed for success in their PhD program and beyond. MTSC 711 follows on the topics learned in MTSC 710 to broaden the professional development of materials science PhD students. Students work to develop an Individual Development Plan, to understand the variety of career paths available for PhD-holders, and to practice research presentations.

Rules & Requirements
Grading Status: Letter grade.

MTSC 718. Seminar in Materials Science and Engineering. 1 Credits.
The Seminar in Materials Science and Engineering is a required 1-credit course for all Materials Science students in fall and spring semesters of years 2-5 of their doctoral program. The course tracks attendance at the required APS departmental seminars. Attending departmental seminars is an important component of training for MTSC doctoral students. Engaging in the seminars will help students gain a working knowledge of a variety of research areas important to their doctoral research.

Rules & Requirements
Grading Status: Letter grade.

MTSC 720. Materials Fabrication. 3 Credits.
Permission of the department. Introduction to materials fabrication and characterization techniques. Includes single crystal growth, thin film deposition, synthesis of quantum dots and nanotubes/nanowires, dielectric and electron emissive materials, nanocomposites, bioceramics, and energy storage materials.

Rules & Requirements
Grading Status: Letter grade.

MTSC 730. Statistical Thermodynamics. 3 Credits.
Permission of the instructor. Theory of ensembles and interactions in statistical mechanics. Classical and quantum statistics. Applications to simple systems: ideal gas, heat capacity of solids, blackbody radiation, phase transitions.

Rules & Requirements
Grading Status: Letter grade.

MTSC 735. Techniques in Materials Science. 3 Credits.
Permission of the department. Lecture and laboratory in materials analysis techniques, including microscopy, X-ray diffraction and fluorescence, magnetic resonance, thermal analysis, XPS, channeling and RBS, mechanical properties, optical spectroscopy.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

MTSC 740. Advanced Biomaterials. 3 Credits.
Medical or dental implants or explants are highlighted from textbooks, scientific literature, and personal accounts.

Rules & Requirements
Requisites: Prerequisite, BMME 510; Permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Same as: BMME 740.

MTSC 745. Chemistry of Biomaterials. 3 Credits.
Focuses on the chemistry and chemical structure-function relationships of soft synthetic biological materials. Topics include chemistry of proteins, peptides, nucleic acids, polysaccharides and lipids, and their incorporation into biomaterials and biosensors; enzymatic reactions; chemical modification of organic and inorganic surfaces using self-assembled monolayer chemistries, bioconjugation chemistries, synthesis of nanoparticles and their application as sensors, application of biological materials for logic operations, fundamentals of supramolecular chemistry.

Rules & Requirements
Grading Status: Letter grade.

MTSC 750. Kinetics, Diffusion, and Phase Transitions of Materials. 3 Credits.
Reaction kinetics in bulk materials. Mass transport, microstructural transformations, and phase transitions in condensed phases. Atom diffusion in solids. Spinodal decomposition.

Rules & Requirements
Grading Status: Letter grade.

MTSC 755. Polymer Processing and Properties. 3 Credits.
How does one process ultrahigh molecular weight polyethylene into ultra-strong fibers or how would you design a polymer shape-memory actuator? Polymer chemistry is important but equally important is the way how polymers are processed. In this course we will discuss the relationship between polymer chemistry, processing and the final, after processing, properties. (We will discuss different processing methods that are currently in use), and which parameters play a role in controlling the final properties.

Rules & Requirements
Grading Status: Letter grade.

MTSC 760. Complex Fluids: Theory and Applications. 3 Credits.
Complex fluids are materials we encounter everyday such as pastes, gels, foams, blood, and tissue, yet ones that cannot be categorized within the traditional three states of matter (solid/gas/liquid). In this course, we introduce the main physical and mathematical concepts of the continuum mechanics of complex fluids and follow with microscopic approaches. The course is designed to focus on both theory and applications with hands-on activities and examples.

Rules & Requirements
Grading Status: Letter grade.

MTSC 765. Electronic Materials and Devices - Organic and Inorganic. 3 Credits.
The course introduces the electronic and optical processes in organic molecules and polymers that govern the behavior of practical organic optoelectronic devices. The course begins with an overview of fundamental science of electronic materials and devices. We then discuss their optoelectronic properties of organic molecules, including topics from photophysics, charge transport and injection. Emphasis will be equally placed on the use of both inorganic and organic electronic materials in organic electronic devices.

Rules & Requirements
Grading Status: Letter grade.

MTSC 780. Advanced Materials Science. 3 Credits.
This course covers the physical fundamentals of material science with an in-depth discussion of structure formation in soft and hard materials and how structure determines material mechanical, electrical, thermal, and optical properties. Topics include amorphous and crystal structures, defects, dislocation theory, thermodynamics and phase diagrams, diffusion, interfaces and microstructures, solidification, and theory of phase transformation. Special emphasis will be on the structure-property relationships of (bio)polymers, (nano)composites, and their structure property relationships.

Rules & Requirements
Grading Status: Letter grade.
Same as: BMME 780, CHEM 780, PHYS 780.

MTSC 785. Introduction to Scientific Computing for Materials. 3 Credits.
An introduction to scientific computing key concepts and applying these concepts to solve problems, focusing on materials science and engineering. An overview of the mathematics basis of each numerical technique is followed with computer programming during and outside of class to apply those techniques. The course will require a final project to understand application software commonly used in materials science and engineering, including molecular dynamics (MD) software and in continuum modeling software.

Rules & Requirements
Grading Status: Letter grade.

MTSC 810. Device Physics and Electronic Properties of Solids. 3 Credits.
Survey of crystal structure, bandstructure, transport. Overview of FETs, heterostructures, light emission, dissipation, noise, integrated circuits, solar cells, and ceramics. Emphasis on physical sources of device behavior.

Rules & Requirements
Requisites: Prerequisites, APPL 470 or PHYS 573, MTSC 615, and 730; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

MTSC 820. Optical Properties of Solids. 3 Credits.
Reflection, waveguides, nonlinear optics, optical switching, photorefraction, optical storage. Optical coupling to electronic states, device applications, optical computing.

Rules & Requirements
Requisites: Prerequisites, APPL 470 or PHYS 573, and PHYS 415; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

MTSC 830. Ion-Solid Interactions. 3 Credits.
Interatomic potentials, range distribution, radiation damage, annealing, secondary defects, analytical techniques, silicon-based devices, implantation in compound semiconductors, and buried layer synthesis. Ion implantation in metals, ceramics, polymers, and biomaterials.

Rules & Requirements
Requisites: Prerequisite, APPL 470 or PHYS 573; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

MTSC 840. New Technologies and Device Architecture. 3 Credits.
Survey of novel and emerging device technologies. Resonant tunneling transistors, HEMT, opto-electronic devices and optical communication and computation, low-temperature electronic, hybrid superconductor devices.

Rules & Requirements
Requisites: Prerequisites, APPL 470 or PHYS 573, MTSC 615, and 730; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

MTSC 871. Solid State Physics. 3 Credits.
Topics considered include those of PHYS 573, but at a more advanced level, and in addition a detailed discussion of the interaction of waves (electromagnetic, elastic, and electron waves) with periodic structures, e.g., X-ray diffraction, phonons, band theory of metals and semiconductors.

Rules & Requirements
Requisites: Prerequisite, PHYS 421; equivalent experience for students lacking the prerequisite.
Grading Status: Letter grade.
Same as: PHYS 871.

MTSC 872. Solid State Physics II. 3 Credits.
Topics considered include quantum and thermal fluctuations, and thermodynamics of phase transitions in a broad variety of condensed matter systems, their kinetic theory and hydrodynamics, novel materials (two-dimensional electron gas, graphene, topological insulators and superconductors, Dirac/Weyl/nodal line semimetals), condensed matter applications of modern field-theoretical methods (path integral, renormalization group, holography).

Rules & Requirements
Requisites: Prerequisite, PHYS 871.
Grading Status: Letter grade.
Same as: PHYS 872.

MTSC 891. Special Topics in Material Science. 1-3 Credits.
Permission of the department. Current topics in materials science, including electronic and optical materials, polymers, and biomaterials.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

MTSC 892. Special Topics in Material Sciences. 3 Credits.
Advanced specialty topics in material sciences for graduate students.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

MTSC 893. Special Topics in Material Sciences. 3 Credits.
Advanced specialty topics in material sciences for graduate students.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

MTSC 894. Special Topics in Material Sciences. 3 Credits.
Advanced specialty topics in material sciences for graduate students.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

MTSC 895. Special Topics in Material Sciences. 3 Credits.
Advanced specialty topics in material sciences for graduate students.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

MTSC 896. Special Topics in Material Sciences. 3 Credits.
Advanced specialty topics in material sciences for graduates.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 1 total completions.
Grading Status: Letter grade.

MTSC 897. Special Topics in Material Sciences. 3 Credits.
Advanced specialty topics in material sciences for graduate students.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

MTSC 898. Special Topics in Material Sciences. 3 Credits.
Advanced specialty topics in material sciences for graduate students.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

MTSC 899. Special Topics in Material Sciences. 3 Credits.
Advanced specialty topics in material sciences for graduate students.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

MTSC 989. Materials Science internship. 1-3 Credits.
An internship can be an important component of graduate training for students earning a Materials Science doctoral degree. The purpose of the internship is to expand research training and exposure to non-academic workplace environments. The student's faculty advisor and an onsite internship mentor will supervise the internship. Students work directly with their faculty advisor and their external contacts to identify internship opportunities and complete a learning agreement for the internship experience.

Rules & Requirements
Repeat Rules: May be repeated for credit. 3 total credits. 3 total completions.
Grading Status: Letter grade.

MTSC 992. Master's (Non-Thesis). 3 Credits.

MTSC 993. Master's Research and Thesis. 3 Credits.
Permission of the department.

Rules & Requirements
Repeat Rules: May be repeated for credit.

MTSC 994. Doctoral Research and Dissertation. 3 Credits.
Permission of the department.

Rules & Requirements
Repeat Rules: May be repeated for credit.

Contact Information

Department of Applied Physical Sciences
Visit Program Website (http://aps.unc.edu)

Chair
Theo Dingemans

Director of Graduate Studies
Rene Lopez

APPLIED PROFESSIONAL STUDIES

The master of applied professional studies (M.A.P.S.) is an interdisciplinary graduate program in The Graduate School at the University of North Carolina at Chapel Hill. M.A.P.S. serves students who need a graduate degree tailored to meet their unique career goals. At the core of the M.A.P.S. program is a series of courses in leadership and business fundamentals designed to provide students with essential professional skills.

Admission Requirements

Applicants must meet Graduate School admissions requirements, which include the minimum requirement of a bachelor's degree completed before graduate study begins or its international equivalent with an accredited institution, and an average grade of B (cumulative GPA 3.0) or better. The GRE is not required. Additional details can be found on the M.A.P.S. admissions (https://appliedmasters.unc.edu/maps-admission/) page.

Applied Professional Studies, Master's Program (M.A.P.S.)

The master of applied professional studies (M.A.P.S.) is an interdisciplinary graduate program that provides students pursuing career advancement, workforce expertise, professional development, or career changes with a solid foundation and the resources needed to create a comprehensive degree that is individualized to meet unique career goals.

The program of study includes 30 credits of academic coursework, including an introductory course in professional studies, applied professional skills curriculum, elective courses from two programs and tailored based on academic and professional interests, and a capstone experience. Students may choose to enroll full-time or part-time and will have five years to complete the degree, using a combination of in-person and online courses.

The curriculum, designed by the student and the master's program director, is intended for students who wish to focus on professional development and skill attainment tied to industry needs through specific learning tracks. At the core of the M.A.P.S. program is a series of courses in leadership and business fundamentals designed to provide students with essential professional skills. All students are required to complete an introductory course in professional studies (GRAD 757) and a capstone experience (GRAD 992). Students are also required to complete nine hours in Graduate Studies courses and 15 hours of electives in two or three programs, with a maximum of 9 credits from one program. Further information on the M.A.P.S. curriculum may be found online (https://appliedmasters.unc.edu/maps-curriculum/).

Course Requirements

Code	Title	Hours
Core Courses		
GRAD 757	MAPS Introduction	3
Complete 9 hours from the following:		9
GRAD 712	Leadership in the Workplace	
GRAD 713	Applied Project Management: Frameworks, Principles and Techniques	
GRAD 714	Introduction to Financial Accounting	
GRAD 715	Business Communication	
GRAD 718	Start the Startup: Bringing Ideas to Market	
GRAD 725	Build Your Professional Brand: Develop Job Search Skills and Materials to Make Employers Notice You	
GRAD 726	Executive Perspective: Business Fundamentals	
GRAD 727	Team Collaboration	
GRAD 755	Fundamentals of Technology Commercialization	
GRAD 756	Research to Revenue - University Startups	
GRAD 758	Managing People and Professional Relationships	
Electives [1]		**15**
Graduate level courses: all courses must be 400+, at least half of all courses need to be 700+		
Course electives must be approved prior to course enrollment by the Director or Assistant Director of MAPS		
Courses must be selected from at least two different programs		
There is a maximum of 9 hours from one department		
Thesis/Substitute or Dissertation		
GRAD 992	Master's (Non-Thesis)	3
Minimum Hours		**30**

[1] MAPS students cannot take courses from any online graduate programs.

TBD Specialization: 15 Hours

Milestones

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 27) for more information.

- Master's Committee
- Master's Oral Exam / Approved Substitute
- Thesis Substitute
- Residence Credit
- Exit Survey
- Master's Prospectus Meeting

Courses

Introductory Core Course

GRAD 757. MAPS Introduction. 3 Credits.
MAPS: Introduction to Applied Professional Studies explores and expands upon the student's goals and intentions in relation to their career objective and its impact on the workforce. MAPS: Introduction to Applied Professional Studies strives to build a solid foundation in which students engage in self-assessment, meaningful exploration of values, reflection on career trajectory, analysis of workforce trends, and the impact of their professional development on the workforce.

Rules & Requirements
Requisites: Prerequisite, Acceptance into MAPS.
Grading Status: Letter grade.

MAPS Core Courses

GRAD 712. Leadership in the Workplace. 1.5 Credits.
Effective leadership begins with understanding your capacity to influence others and galvanize them around positive change. This course examines your current leadership behaviors and addresses the relationship of those behaviors to leadership development opportunities including influencing team dynamics, building productive relationships and managing change as a professional and a leader.

Rules & Requirements
Grading Status: Letter grade.

GRAD 713. Applied Project Management: Frameworks, Principles and Techniques. 1.5 Credits.
This course focuses on practical project management principles and techniques, demonstrating their effectiveness in the workplace. Key topics include frameworks and methodologies, planning and monitoring projects, risk management, stakeholder management, managing your team, and time and cost management. This course will include group work.

Rules & Requirements
Grading Status: Letter grade.

GRAD 714. Introduction to Financial Accounting. 1.5 Credits.
This course will teach the basics of Financial Accounting, including the Balance Sheet, the Income Statement, and the Statement of Cash Flows and Budgeting. The final presentation will incorporate financial skills and knowledge that can be used to support a future project proposal to business managers in an organization.

Rules & Requirements
Grading Status: Letter grade.

GRAD 715. Business Communication. 1.5 Credits.
Business Communication is a 7-week course and development series designed to provide Carolina graduate students strategies and tactics for: (1) clearly, concisely, and convincingly communicating their ideas in business settings; and (2) operating with a client (eg, internal, external) focus. Students will explore some of the fundamentals of business writing, including practices for writing common business documents.

Rules & Requirements
Grading Status: Letter grade.

GRAD 718. Start the Startup: Bringing Ideas to Market. 3 Credits.
Do you have an idea for a startup company? Would you like to explore the feasibility of launching a business? Start the Startup (STS) gives graduate students the opportunity to test and validate a new business idea using the Lean Startup methodology. Don't have an idea but want to learn the process? You can join a team going through the course. Teams will receive coaching as well as a final recommendation from an expert panel.

Rules & Requirements
Grading Status: Letter grade.

GRAD 725. Build Your Professional Brand: Develop Job Search Skills and Materials to Make Employers Notice You. 1.5 Credits.
Building effective job search strategies, materials, and a strong online presence is essential for career success inside and outside the academy. Work with professionals with expertise in all areas of the job search process to develop your brand including a LinkedIn profile, resume/CV, cover letters and identify your job values and job skills and develop a Professional Development Plan. Interactive sessions will provide the setting to develop/refine your materials and your career approach.

Rules & Requirements
Grading Status: Letter grade.

GRAD 726. Executive Perspective: Business Fundamentals. 1.5 Credits.
This seminar series will introduce students to many of the topics essential to the workplace including the structure and culture of a variety of organizations, interpersonal skills in the workplace, and more. Broadly, the series will reinforce concepts taught in the GRAD business fundamentals/professional skills classes by placing them in the context of career paths that are of interest to students.

Rules & Requirements
Grading Status: Letter grade.

GRAD 736. Venture Capital Practicum. 1.5 Credits.
In this experiential course, students will explore the activities and tools needed to make actual investment decisions for emerging companies. The course is offered in collaboration with Carolina Research Ventures (CRV), which supports companies engaged in commercializing technologies and other assets emanating from the University and UNC Health. Students will learn principles of rigorous and reproducible due diligence and market research; learn key components to the conduct of thorough due diligence on early-stage companies.

Rules & Requirements
Grading Status: Letter grade.

GRAD 737. Journey to Entrepreneurship: Building Your Start Up Skillset. 1.5 Credits.
Provides a skill-driven curriculum for trainees interested in the fundamentals of launching and financing startups, including university spinouts. Led by a different subject matter expert each week, course topics will include fundraising strategies for your startup, preparing for due diligence and how to effectively pitch to your investors. Insights and skills gained from this course will enable students to work effectively with startup companies and entrepreneurs.

Rules & Requirements
Grading Status: Letter grade.

GRAD 751. Consulting Fundamentals For Adv. Professional Degree Graduate Students. 1.5 Credits.
The course covers the fundamental skills required in consulting: defining the problem, gathering relevant information, analyzing data, synthesizing findings, drawing conclusions, developing recommendations, and communicating those recommendations.

Rules & Requirements
Grading Status: Letter grade.

GRAD 755. Fundamentals of Technology Commercialization. 1.5 Credits.
This course provides an overview of the fundamental first steps of technology commercialization, with a specific emphasis on university technology commercialization (aka technology transfer). The course will cover the following topics: Market Assessment, Intellectual Property, Technology Development, Licensing, Commercial Development, and University Startups. Permission from the instructor required.

Rules & Requirements
Grading Status: Letter grade.

GRAD 756. Research to Revenue - University Startups. 1.5 Credits.
Universities are rich sources of ideas and innovation. As such, they provide the springboard for launching high growth startups. These startups emanate from a variety of university sources, ranging from students with disruptive business models to faculty and graduate students with innovative research discoveries. This course explores the latter: university startups developed as part of the university research engine. The course builds on the concepts of GRAD 755-Fundamentals of Technology Commercialization.

Rules & Requirements
Requisites: Prerequisite, GRAD 755.
Grading Status: Letter grade.

GRAD 770. Executive Perspective: The Digital Revolution and its Impact on Business. 1.5 Credits.
The Digital Revolution is transforming the way we live and work - from technology-driven to human-centered; from point solutions to end-to-end; and from fragmented to integrated. The course is designed to provide an overview and introduction to transformational principles for individuals, organizations, and industry ecosystems. Students will explore new models of engagement, persona discovery, value mapping, and systems thinking to anchor them to the critical attributes of the digital revolution.

Rules & Requirements
Grading Status: Letter grade.

Capstone

GRAD 992. Master's (Non-Thesis). 3 Credits.
Rules & Requirements
Requisites: Prerequisite, GRAD 757; Permission of the program director.
Repeat Rules: May be repeated for credit.

Contact Information

Department of Applied Professional Studies
Visit Program Website (https://appliedmasters.unc.edu/)

Director
Laura Kuizin
lkuizin@unc.edu

Assistant Director
Sarah Johnston
johnstsa@email.unc.edu

DEPARTMENT OF ART AND ART HISTORY (GRAD)

For those considering professional careers as art historians (teaching and research), critics, or museum and gallery professionals, the Department of Art and Art History offers graduate work leading to the degrees of master of arts and doctor of philosophy. Those who aim to become professional artists should take the degree of master of fine arts in studio art.

The department houses many resources that are vital to our programs. The Hanes Art Center provides exhibition galleries, an art library, a visual resources library, offices, study areas, classrooms, digital, photography, and printmaking laboratories, one of several BeAM makerspaces (https://beam.unc.edu/), and artist studios. Additional studios and the metal, ceramic, and wood shops are located in the Art Laboratory building on Airport Drive, one mile from campus.

The Joseph C. Sloane Art Library (https://library.unc.edu/art/) has a collection of over 100,000 print volumes and is supplemented by the University Libraries, with holdings of more than 6,000,000 volumes. The Sloane Art Library provides quiet study spaces and access to specialized art resources; it also houses the reserve holdings for art department courses. Graduate students have access to the Visual Resources Library and can use different types of scanning equipment (flatbed scanners, slide, and film scanners) to digitize images for research. The VRL has current holdings of 250,000 slides, 60,000 digital images, and 20,000 photographs.

Admission

Deadlines for applications are in December for art history and in January for studio art. The Graduate School application is submitted via the online application for admission. See both the Department of Art and Art History's website (https://art.unc.edu/) and The Graduate School's website (http://gradschool.unc.edu/admissions/instructions.html) for detailed information and deadlines. Individuals who are unable to utilize the online application may request a paper application from gradinfo@unc.edu or by phoning (919) 966-2612. Individuals applying to the studio art program will want to load their images in Slide Room as instructed.

Admission Requirements for M.F.A.

We seek applications from individuals committed to their development as professional artists. While the majority of applicants hold a bachelor's degree in art, we also welcome applications from students who hold undergraduate degrees in other fields and can present a strong art portfolio. Students who do not have a bachelor's degree in art should have at least one basic-level and one intermediate-level course in art history in preparation for the graduate-level coursework in art history required of M.F.A. students. Applicants to the M.F.A. program are not required to take the Graduate Record Exam (GRE).

Applicants are admitted for the fall semester only.

All applications must be submitted by posted deadlines and must include the following:

- Graduate School Application
- Undergraduate Transcript
- Three Letters of Recommendation
- Application Fee

Supplemental materials specific to the M.F.A. admission application include the following:

- Statement of Purpose
- Slides of Art Work for Portfolio Review submitted on Slideroom
- List of Images Submitted for Portfolio Review

See the Department of Art and Art History's website (https://art.unc.edu/courses-and-degrees/studio-art-graduate-programs/studio-art-graduate-admissions/) for specific instructions.

For more information, contact the director of graduate studies for studio art (https://art.unc.edu/people/administration-and-staff/).

Master of Arts (M.A.) and the Doctorate (Ph.D.) in Art History

In addition to completing an application to The Graduate School, candidates for admission to the graduate programs in art history must submit an example of their written work. The writing sample should be no more than 15 pages. Applicants with a B.A. in art history (or related field) may apply to the M.A. program, the dual M.A./M.S.L.S., or directly to the Ph.D. program. Those who already have an M.A. in art history may apply to the Ph.D. program. An undergraduate major in art history is not required for admission to the graduate program; however, entering candidates must have taken a minimum of 24 credit hours in art history, archaeology, cultural anthropology, or aesthetics.

There are no spring semester admissions in art history. See the Department of Art and Art History's website (https://art.unc.edu/courses-and-degrees/art-history-graduate-programs/art-history-graduate-admissions/) for more detailed instructions.

Financial Aid for Studio Art Students

All applicants for admission to the M.F.A. program are automatically considered for nomination for merit awards offered by The Graduate School. All accepted MFA students receive full tuition funding and stipends through Teaching Assistantships and/or specially designated awards administered directly by the department. Students are awarded teaching fellowships for their second year of study after they have completed the teaching practicum course.[1] Students desiring financial aid should consult as early as possible the Office of Scholarships and Student Aid (http://studentaid.unc.edu) for information about work-study jobs and loans.

[1] Students with demonstrable teaching experience at the college level are exempt from this course.

Financial Aid for Art History Students

All applicants for admission who have completed their applications by the deadline are automatically considered by the department for nomination for Graduate School awards. Applicants and students in residence are also eligible for teaching and research assistantships, which are awarded by the department. Students desiring financial aid should consult as early as possible the Office of Scholarships and Student Aid (http://studentaid.unc.edu) for information about work-study jobs and loans.

Master of Fine Arts Degree

The master of fine arts degree at UNC–Chapel Hill is a two-year, 60-hour program. Credits are earned through studio practice, formal critique, professional development, and academic electives. Additionally, a teaching foundation and professional development course that supports the practical aspects of an art career (grant writing, professional presentation, studio visits, relationships with galleries and museums, etc.) is available for students who wish to prepare for an academic career. While this class is optional, it is required for students who wish to apply for teaching fellowships in the M.F.A. program. Because the majority of our funding is offered through teaching fellowships we strongly urge students to take advantage of this opportunity.

Credits for studio practice constitute the majority of credits. These are earned through independent study and critique. All M.F.A. students have individual studio space to support their creative research. With the department's interdisciplinary approach, students need not choose a particular medium for specialization. They may use different media to express a variety of aesthetic and conceptual goals. This, however, does not preclude a media focus but does mean that media choices are integral to students' intellectual and aesthetic explorations.

The structure for feedback in the program is through weekly critiques when students interact with the studio faculty over the course of the semester. A formal review brings the entire faculty together to evaluate each student's progress at the end of the first semester, and the student's committee members evaluate that progress at the end of the second and fourth semester. The academic component of the M.F.A. program is designed to complement the art-making process. The program strongly believes that the decision to pursue the making of fine art in an academic context carries an attendant responsibility to develop the verbal and written articulation of the visual. To help achieve this goal, students participate in two graduate seminars (three credit hours each). Other academic credits are satisfied by a requisite six hours of additional coursework in art history. Usually, students are urged to take one of these courses in the area of contemporary art history. Students also take six hours in electives in which the students are able to take advantage of upper-division and graduate-level courses in fields related to their studio practice or studio courses that help them advance or expand their technical and material skills. Students select these courses depending on the focus of their studio explorations, thus stretching the capacity of their creative work.

The remaining academic credits are earned through the master's thesis. This includes mounting a group exhibition of the thesis work, curated by and at the Ackland Art Museums, as well as a solo show in the Department of Art's Allcott Gallery; writing a thesis statement to accompany the thesis work; and presenting a visual lecture as the M.F.A. thesis defense that is then submitted to the Carolina Digital Repository.

In addition to the core curriculum, the UNC–Chapel Hill master of fine arts program supports students by bringing artists and critics to UNC–Chapel Hill throughout the year. For the Hanes Visiting Artist Lecture Series, artists are typically invited to campus for a two-day visit, during which time they give a public lecture and provide private critiques for the department's graduate students. This program has proved to be a vital conduit for graduate students to see the work of, and interact with, a large and diverse number of professional artists. Additionally, the Visiting Arts Professionals Program brings visiting critics, gallerists, curators, or other art professionals to campus 4–5 times per year to further introduce students to the professional art world, furthering knowledge and fostering mutually beneficial practical and professional connections and relationships. These guests participate in a moderated, informal conversation with students and also conduct studio visits.

Master of Arts Degree

The master of arts degree generally follows the requirements of The Graduate School as described in the section on graduate degree requirements in The Graduate School Handbook *(*http://handbook.unc.edu/*)*. Students will acquire a broad knowledge of world art while sampling the diverse theory and methods employed by our faculty in the discipline of art history. The master's program in art history is designed to be completed in four semesters.

Course Work

Total of 12 courses, 36 credits distributed as follows:

- Three required courses: Methods in Art Historical Research (ARTH 850) in the first semester; Writing Seminar (ARTH 991)in the second year, and Master's Thesis (ARTH 993) in the fourth semester
- Nine courses, five of which should be graduate research seminars (700-level or above) taken within the department (ARTH course designation).
- Students are strongly encouraged to take courses in a range of art-historical fields.
- Two courses may be taken in other departments as electives for supplementary and complementary studies.

Language Requirement

By the end of the third semester, all M.A. students are required to have met the language requirement of one language other than English, appropriate to the area of study. The language will be determined in consultation with the student's advisor and the director of graduate studies. The student can demonstrate competency by obtaining a passing grade on the UNC–Chapel Hill reading competency exam, or earning a B (or a graduate P) or better in a fourth semester or higher language course, or earning a B (or a graduate P) in a literature course in that language at UNC–Chapel Hill. No credit toward the M.A. coursework requirement is given for language courses.

Master's Thesis

The M.A. thesis is completed by the end of the fourth semester of enrollment. The completed thesis must be signed by the members of the thesis committee and submitted to The Graduate School in time for May graduation.

Master's Thesis Defense and Oral Exam

Students will present their M.A. thesis at an oral examination prior to the formal submission deadline for M.A. theses. The examining committee will comprise the student's thesis committee. The oral examination will include questions about larger issues raised in the Methods and Writing seminars and thus will constitute a comprehensive examination of the student's work toward the M.A. degree as well as of the thesis itself. Students who fail the thesis examination may repeat it prior to the end of classes and if successful may apply for the next graduation date.

Doctor of Philosophy Degree

The degree of doctor of philosophy generally follows the requirements of The Graduate School as described in the section on graduate degree requirements in The Graduate School Handbook *(*http://handbook.unc.edu/*)*. Additionally, specific departmental guidelines governing movement through the program, such as the formation of the

dissertation committee and scheduling of committee meetings can be found on the department website.

Course Work

Ph.D. students entering with an M.A. in art history or closely related field take a total of nine courses, at least four of which are research seminars (700-level or above) taken within the department (ARTH course designation). The final course is ARTH 994 (Doctoral Dissertation). Two of the nine courses may be taken in other departments as electives for supplementary and complementary studies.

Ph.D. students entering without an M.A. take a total of 15 courses, plus a final course, ARTH 994 (Doctoral Dissertation). The required courses normally include ARTH 850 (Methods in Art Historical Research) and the Writing Seminar (ARTH 991), with a Professional Development Course (ARTH 852) strongly recommended. Of the remaining courses, at least six must be research seminars (700-level or above) taken within the department (ARTH course designation).

Three courses may be taken in other departments as electives for supplementary and complementary studies. Up to three additional courses outside the department may be taken as part of an external minor with the approval of the student's advisor and the DGS.

Electing to Pursue an External Minor

Ph.D. students may choose to complete a formal external minor, which consists of at least five additional courses in a field related to his or her area of specialized study (such as communication studies, women's studies, history, or medieval studies). The student must secure prior approval of the department offering the minor, and a copy of the proposed courses to be taken must be signed by both departments and entered in the student's permanent record in the Department of Art and Art History and the UNC–Chapel Hill Graduate School.

Language Requirement

Ph.D. students are required to demonstrate proficiency in two languages other than English. The first language will be the language that fulfilled the M.A. language requirement. The second language should be appropriate to the area of study and will be determined in consultation with the student's advisor and the director of graduate studies for art history. Some fields require additional languages and students should study these languages as necessary. Competency in the second language will be determined following the same guidelines as those for the M.A. language requirement.

Preliminary Doctoral Exams

Ph.D. students take both the written and the oral preliminary exams during the semester after the Ph.D. coursework is completed. Most Ph.D. students will take the preliminary exams during the spring semester of their second year in the Ph.D. program. Those students pursuing an external minor will take the preliminary exams during the fall semester of their third year.

- *Written Exams.* Students take the written exams over the course of a one-week period. Students who fail the written exams may repeat them only once. These exams are taken in three parts: first major field of study (six hours), second major field of study (six hours), methodological/thematic area of study (six hours).
- *Preliminary Oral Exam.* An oral exam will take place within two weeks of the written exam. The oral will be on the content of the written exams and may also include a defense of the dissertation prospectus. The examining committee will consist of at least three members who must be full-time active graduate faculty members or adjunct teaching faculty members in art history.
- *Dissertation Prospectus.* Ph.D. students defend their dissertation prospectus orally. If the dissertation prospectus is not defended at the oral exam, this defense should take place within four months of the written exams. At least two weeks before the prospectus defense, the student submits a dissertation prospectus to his or her dissertation committee, which should consist of five faculty members, three of whom must be permanent members of the UNC–Chapel Hill art history faculty.

Dissertation and Final Oral Exam

After passing the preliminary doctoral exams, the student begins work on the dissertation. Once the dissertation is completed and approved by the advisor and dissertation committee, the student defends the finished dissertation.

For further information, the applicant should write to the Director of Graduate Studies for art history (https://art.unc.edu/people/administration-and-staff/).

Professors

Christoph Brachmann, European Art, 1400–1700
S. Elizabeth Grabowski, Printmaking, Painting, Drawing
Sabine Gruffat, Digital Art
James Hirschfield, Sculpture
Annette Lawrence, Painting
Cary Levine, Contemporary Art
Carol Magee, African Photography and Contemporary Art
Yun-Dong Nam, Ceramic Sculpture
Victoria L. Rovine, African Art
Daniel J. Sherman, European Art, 1850–1960, Cultural History, Museums
Hong-An Truong, Digital Art

Associate Professors

John P. Bowles, African American Art
Maggie Cao, American Art
Eduardo Douglas, Latin American Art
Mario Marzán, Painting, Drawing, Latin American Art
Roxana Pérez-Méndez, Sculpture
Tania String, European Art, 1400–1700
Lien Truong, Painting, Drawing
Lyneise Williams, Latin American and African Diaspora Art

Assistant Professors

Kathryn Desplanque, 18th- and 19th-Century European Visual Culture
Sherrill Roland, Sculpture
Martín Wannam, Photography
Meng Zhao, Asian Art

Teaching Assistant Professor

Jennifer J. Bauer, Modern Art

Ackland Art Museum

Carolyn Allmendinger, Adjunct Assistant Professor, Director of Academic Programs
Dana Cowen, Adjunct Assistant Professor, Peck Curator of European and American Art before 1950

Elizabeth Manekin, Adjunct Assistant Professor of the Practice, Head of University Programs and Academic Projects

Adjunct Associate Professor

Hérica Valladares, Roman Visual and Literary Culture, Classics Department

Adjunct Assistant Professor

Timothy Shea, Greek Art and Archaeology, Classics Department

Professors Emeriti

Jaroslav T. Folda
Arthur Marks
Jerry Noe
Mary Pardo
Marvin Saltzman
Mary C. Sturgeon
Dorothy Verkerk

ARTH (Art History)

Advanced Undergraduate and Graduate-level Courses

The content of these courses varies slightly from year to year in accordance with the needs of the students and the special competence of the instructor.

ARTH 400. German and Netherlandish Renaissance. 3 Credits.
The course focuses on a crucial period of German and Netherlandish art around 1500, referred to as the so-called Age of Dürer, which still shows influences of Gothic art but also of new Italian Renaissance. Often based on artifacts of the Ackland Art Museum, case studies explore the interaction of artists and patrons in important art centers of the time.

Rules & Requirements
Grading Status: Letter grade.

ARTH 401. Seen, Unseen, and Suggested: Representation and Hollywood Film Censorship. 3 Credits.
This course will look at the history of film censorship in the United States from the perspective of how such things as the Production Code (Hays Code), wartime restrictions, Anti-communist blacklisting, regional and local censorship boards (for example, Southern Baptist Ministers prior to 1968), late 1960s movements for social change, and culturally and socially-determined moral and ethical standards restricted what could and could not be seen on movie screens in American theaters.

Rules & Requirements
IDEAs in Action Gen Ed: FC-AESTH or FC-PAST.
Grading Status: Letter grade.

ARTH 420. Constructing Femininity: Women in Chinese Painting. 3 Credits.
This course examines issues of femininity and sexuality in Chinese painting from the Han Dynasty (206 B.C.-220 A.D.) to the end of dynastic China in the nineteenth century. Course topics include the ways in which pictures of women help to craft the notion of femininity in pre-modern Chinese society and the differing roles of women as painters, patronesses, and collectors.

Rules & Requirements
IDEAs in Action Gen Ed: FC-AESTH.
Grading Status: Letter grade.
Same as: ASIA 420.

ARTH 445. The Mexican Mural Renaissance, 1921-1945. 3 Credits.
This course investigates mural painting and state patronage in post-Revolutionary Mexico, from 1921 to 1945, when artists engaged politics in monumental public works. Focuses on the murals of Diego Rivera, José Clemente Orozco, and David Alfaro Siqueiros, as well as on the relationship between art and politics.

Rules & Requirements
Grading Status: Letter grade.

ARTH 446. The Invention of the Modern Artist. 3 Credits.
This class examines the invention of the idea of the artist in the Western world, starting in Early Modernity and ending with the present. We consider the evolution of the artist's social status, the representation of the artist in a variety of media, shifting expectations for artistic training and community, the relationship between the artist and the art market, and different definitions of artistic genius or excellence in art marking.

Rules & Requirements
IDEAs in Action Gen Ed: FC-AESTH, RESEARCH, COMMBEYOND.
Grading Status: Letter grade.

ARTH 450. The City as Monument. 3 Credits.
A city or cities will be considered as cultural artifact(s), with emphasis given to plans and planning, architecture, public monuments and to various institutions, such as religion, government, the arts, and commerce that initiate or affect these urban developments and forms. Honors version available.

Rules & Requirements
Grading Status: Letter grade.

ARTH 451. Women in the Visual Arts II. 3 Credits.
Discussion of topics related to the representation of women in Western art and/or women as producers of art.

Rules & Requirements
Grading Status: Letter grade.
Same as: WGST 451.

ARTH 452. Brazilian Modernism. 3 Credits.
This course covers the development of modernism in the visual arts in Brazil from 1917, the year in which a Brazilian artist first exhibited "modernist" artworks in Brazil, to 1960.

Rules & Requirements
Grading Status: Letter grade.

ARTH 453. Africa in the American Imagination. 3 Credits.
Examines the ways African art appears in United States popular culture (advertisements, magazines, toys, films, art) to generate meanings about Africa. Addresses intersecting issues of nationalism, multiculturalism, imperialism, nostalgia, and race. Restricted to sophomores, juniors, and seniors.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.
Same as: AAAD 486.

ARTH 454. Cathedrals, Abbeys, Castles: Gothic Art and Architecture, ca.1130-1500. 3 Credits.
Covers the development of Gothic church and secular architecture in Europe between 1130 and 1500. Explores formal and constructive progress in architecture (including sculpture and stained glass windows) and social, political, and economic aspects of medieval society that affected these developments.

Rules & Requirements
Grading Status: Letter grade.

ARTH 455. City, Architecture, Art: Nuremberg as a European Artistic Center,1300-1600. 3 Credits.
The course covers the development of art and architecture from ca. 1300 to ca. 1600 in one of the most important medieval and early modern art centers in Europe: Nuremberg, the hometown of the famous German painter Albrecht Dürer (1471-1528).

Rules & Requirements
Requisites: Prerequisite, ARTH 151; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

ARTH 457. Studies in the History of Graphic Art. 3 Credits.
Required preparation, any intermediate art history course or permission of the instructor. Study of prints and printmaking in Western art from ca. 1400 to the present focusing on selected topics.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-PAST.
Grading Status: Letter grade.

ARTH 461. Greek Sculpture. 3 Credits.
Required preparation, any intermediate art history course or permission of the instructor. A focused study of sculpture in Ancient Greece.

Rules & Requirements
Grading Status: Letter grade.
Same as: CLAR 461.

ARTH 464. Greek Architecture. 3 Credits.
A survey of Greek architectural development from the Dark Ages through the fourth century BCE. Special topics include the beginnings of monumental architecture, the development of the orders, and interpretations of individual architects in terms of style and proportions.

Rules & Requirements
Requisites: Prerequisite, CLAR 244; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Same as: CLAR 464.

ARTH 465. Roman Architecture. 3 Credits.
The development of architecture in the Roman world from the ninth century BCE through the fourth century CE. The course focuses on the development of urbanism and the function, significance, and evolution of the main building types and their geographic distribution.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-PAST.
Requisites: Prerequisite, CLAR 245, CLAR 247, or CLAR/ARTH 263; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Same as: CLAR 465.

ARTH 466. History of the Illuminated Book. 3 Credits.
Chronological survey of major developments in book painting during the European Middle Ages from 300 to 1450 CE.

Rules & Requirements
Grading Status: Letter grade.

ARTH 469. Art of the Aztec Empire. 3 Credits.
This course provides a comprehensive introduction to the art of the Aztec Empire, including architecture, monumental sculpture, small-scale sculpture, ceramics, painting, lapidary work, gold work, and feather work.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-PAST.
Grading Status: Letter grade.

ARTH 471. Northern European Art of the 14th and 15th Centuries. 3 Credits.
Required preparation, any intermediate art history course or permission of the instructor. Advanced study of painting and sculpture in France, England, and the Netherlands, 1300 to 1400.

Rules & Requirements
Grading Status: Letter grade.

ARTH 472. Early Modern Art, 1400-1750. 3 Credits.
Required preparation, any intermediate art history course or permission of the instructor. This course explores specialized themes and/or broad topics in Western European art of the early modern period. Honors version available.

Rules & Requirements
Grading Status: Letter grade.

ARTH 473. Early Modern and Modern Decorative Arts. 3 Credits.
Required preparation, any intermediate art history course or permission of the instructor. This course traces major historical developments in the decorative and applied arts, landscape design, and material culture of Western society from the Renaissance to the present.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-PAST.
Grading Status: Letter grade.

ARTH 474. Roman Sculpture. 3 Credits.
Survey of Roman sculpture (200 BCE-300 CE), including portraiture, state reliefs, funerary monuments, and idealizing sculpture, with emphasis on style, iconography, and historical development of sculpture in its sociocultural, political, and religious contexts.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-PAST, RESEARCH.
Requisites: Prerequisite, CLAR 245, CLAR 247 or CLAR/ARTH 263; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Same as: CLAR 474.

ARTH 476. Roman Painting. 3 Credits.
Surveys Roman painting from 200 BCE to 300 CE, with emphasis on style, iconography, historical development of painting in its sociocultural, political, and religious contexts. Treats current debates in scholarship.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-PAST.
Requisites: Prerequisite, any CLAR or ARTH course at the 200-level or higher (preferably CLAR 245, CLAR 247, or CLAR/ARTH 263); permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Same as: CLAR 476.

ARTH 482. Art and Archaeology of Achaemenid Persia. 3 Credits.
This course will examine the history and material culture of the ancient state known as the Achaemenid Persian Empire through ancient texts and archaeological sources. Beginning in the sixth century BCE, this ancient superpower ruled a vast and culturally diverse empire that stretched from Northern Libya to central Asia. Through an examination of key sites, objects, and texts we will explore the history and diversity of this multicultural empire.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-POWER.
Grading Status: Letter grade.
Same as: CLAR 482.

ARTH 484. Culture on the Move: Art, Empire, and Restitution since 1800. 3 Credits.
This discussion-based course examines the systems of value that confer special status on the broad category of cultural property, then explores a number of case studies of art theft and restitution since the early 19th century, with an emphasis on art theft during World War II and that undertaken under the aegis of European colonialism.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-PAST.
Grading Status: Letter grade.
Same as: HIST 468.

ARTH 485. Art of the Harlem Renaissance. 3 Credits.
Examines the Harlem Renaissance (1918-1942) as an instance of both transnational modernism and cultural nationalism through study of how artworks articulate interrelated conceptions of race, gender, sexuality, and social class.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-PAST.
Grading Status: Letter grade.

ARTH 488. Contemporary African Art. 3 Credits.
Examines modern and contemporary African art (1940s to the present) for Africans on the continent and abroad. Examines tradition, cultural heritage, colonialism, postcolonialism, local versus global, nationalism, gender, identity, diaspora.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH.
Requisites: Prerequisite, AAAD 101 or ARTH 152 or 155; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Same as: AAAD 405.

ARTH 490. Special Topics in Art History. 3 Credits.
Required preparation, any intermediate art history course or permission of the instructor. Selected topics in art history.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

ARTH 514. Monuments and Memory. 3 Credits.
Explores the role of monuments in the formation of cultural memory and identity, both nationally and globally. Topics include the construction of identities in and through public spaces, commemoration of both singular individuals and ordinary citizens, and the appearance of new types of post-traumatic monuments in the 20th century.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-PAST.
Grading Status: Letter grade.
Same as: HIST 514.

ARTH 551. Introduction to Museum Studies. 3 Credits.
Introduces careers in museums and other cultural institutions. Readings and interactions with museum professionals expose participants to curation, collection management, conservation, exhibition design, administration, publication, educational programming, and fundraising.

Rules & Requirements

IDEAs in Action Gen Ed: HI-GENERAL.
Grading Status: Letter grade.

ARTH 553. The Body in Social Theory and Visual Representation. 3 Credits.
A study of how the human body has been represented in contemporary art and the relation of those representations to theories of the individual and society.

Rules & Requirements
Grading Status: Letter grade.

ARTH 555. Urban Africa and Global Mobility. 3 Credits.
The contemporary arts of Africa are framed by urbanization and global mobility. This course examines how artists examine, reflect on, and express visually experiences of these conditions.

Rules & Requirements
Grading Status: Letter grade.

ARTH 557. Art and Money. 3 Credits.
This course explores intersection of art and economics from the 18th century to the present through themes such as value, markets, counterfeiting, and circulation. It examines money as a visual artifact and artworks that engage with monetary questions in the context of art history and Western economic theory.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-PAST, COMMBEYOND.
Grading Status: Letter grade.

ARTH 583. Theories of Modern Art. 3 Credits.
Required preparation, any intermediate art history course or permission of the instructor. A study of theoretical issues central to the understanding of trends in modern art (e.g., modernism, the avant-garde, formalism originality).

Rules & Requirements
Grading Status: Letter grade.

ARTH 586. Cultural Politics in Contemporary Art. 3 Credits.
Permission of the instructor. This course will examine strategies of critique in contemporary art. Organized thematically, it focuses on the tactics employed by artists who address political, social, or cultural issues through their work.

Rules & Requirements
Grading Status: Letter grade.

ARTH 588. Current Issues in Art. 3 Credits.
Addresses select issues that have gained or re-gained prominence in today's art world, for example globalization, training, the market, and the nature of the "contemporary."

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH.
Grading Status: Letter grade.

ARTH 592. History and Theory of Museums. 3 Credits.
Required preparation, any intermediate art history course or permission of the instructor. Provides an historical overview of museums. Serves as an introduction to many of the theoretical issues museums face including: ethics, audiences, the role of museums in society, exhibiting dilemmas.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-PAST.
Grading Status: Letter grade.

ARTH 595. Experience in Research. 1-3 Credits.
Required preparation, one 100-level art history course and one 200- to 399-level art history course. An experiential learning opportunity in independent and original research on a topic or in a field of the student's choosing under the close direction of a faculty supervisor.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

ARTH 691H. Honors in Art History. 3 Credits.
Permission of the instructor. Independent research directed by a faculty member leading to an honors thesis.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

ARTH 692H. Honors in Art History. 3 Credits.
Permission of the instructor. Independent research directed by a faculty member leading to an honors thesis.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

Graduate-level Courses

In the seminars listed, the topics for study change from year to year depending upon the professor conducting the course. Architecture, sculpture, painting, or a combination of these may be the subject. Consult the department schedule for details on specific courses in any given semester.

ARTH 750. Advanced Readings Topics in the History of Art. 1-3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 9 total credits. 3 total completions.
Grading Status: Letter grade.

ARTH 751. Gender and Visual Culture. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.
Same as: WGST 751.

ARTH 755. Museum Studies Apprenticeship. 3 Credits.
Provides experience in some aspect of museum work: curatorial, educational, collections management, exhibition design, administration. Requires a minimum of 90 hours and will have an academic component.

Rules & Requirements
Requisites: Prerequisite, ARTH 551 or ARTH 592; permission of the instructor for students lacking the prerequisite.
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

ARTH 763. Medieval Studies. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.

ARTH 777. Colonialism and European Visual Culture, 1800-1990. 3 Credits.
Considers the role of visual representation in the construction of European empire and its associated knowledges from the Napoleonic expedition to Egypt to debates over primitivism in the 1980s.

Rules & Requirements
Grading Status: Letter grade.
Same as: HIST 777.

ARTH 794. Greek Topography. 3 Credits.
Study of chief archaeological sites of Greece and of existing buildings and monuments. Attention to the problems of excavation and the role of the sites in Greek history.

Rules & Requirements
Grading Status: Letter grade.
Same as: CLAR 794.

ARTH 798. Roman Topography. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.
Same as: CLAR 798.

ARTH 850. Methods in Art Historical Research. 3 Credits.
This course introduces students to a variety of historical and contemporary methods for the interpretation of visual culture.

Rules & Requirements
Grading Status: Letter grade.

ARTH 851. alt-Methods: Digital Art History. 3 Credits.
This course introduces students to current digital art history projects and practices as well as methods for approaching art historical research in new ways.

Rules & Requirements
Grading Status: Letter grade.

ARTH 852. Professional Development. 1-3 Credits.
This course focuses attention on the variety of ways in which scholars in the arts disseminate their research and market themselves. Students will analyze and participate in various weekly writing and oral exercises, but will focus on one specific genre for their semester long project.

Rules & Requirements
Grading Status: Letter grade.

ARTH 910. Seminar in Architecture. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.

ARTH 950. Problems in the the History of Art. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 9 total credits. 3 total completions.
Grading Status: Letter grade.

ARTH 952. Seminar in Museum Studies. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.

ARTH 954. Seminar in Chinese Art and Architecture. 3 Credits.
Study selected topics in the history of Chinese art and architecture.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

ARTH 957. Seminar in African Art. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.

ARTH 958. Seminar in Contemporary Global Arts. 3 Credits.
This seminar examines contemporary artistic production that engages, questions, and challenges the narratives of culture and art that privilege Europe and America as the models for understanding cultural production.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

ARTH 959. Seminar in Latin American Art. 3 Credits.
This seminar investigates topics in the history of colonial and modern Latin American Art.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

ARTH 961. Seminar in Medieval Art. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.

ARTH 968. Tudor and Jacobean Portraits: A Theoretical and Practical Investigation. 3 Credits.
This course involves close and critical examination of a select body of extant portraits from the Tudor and Jacobean periods in English history (1485-1625) in the collection of the North Carolina Museum of Art. Students taking this unit will play an active role in researching these relatively unstudied works of art.

Rules & Requirements
Grading Status: Letter grade.

ARTH 971. Seminar in Renaissance Art. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.

ARTH 972. Seminar in Baroque Art. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.

ARTH 980. Seminar in Modern Art. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.

ARTH 981. Seminar in Nineteenth-Century Art. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.

ARTH 982. Seminar in American Art. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.

ARTH 983. Mexico City: 1890-1950. 3 Credits.
Permission of the instructor. This course examines the visual culture of Mexico City between 1890 and 1950. It also considers works by artists outside of Mexico who were associated and inspired by cultural production here.

Rules & Requirements
Grading Status: Letter grade.

ARTH 984. Seminar in Contemporary Art. 3 Credits.
Addresses select topics and theoretical issues relevant to contemporary art.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

ARTH 985. Fashioning Power. 3 Credits.
This graduate seminar focuses on fashion (clothing, accessories, style, performance) as the central cultural component for examining power in society.

Rules & Requirements
Grading Status: Letter grade.

ARTH 987. Seminar in African American Art. 3 Credits.
Advanced standing in art history or permission of the instructor. Explores current debates crucial to the study of African American art. Emphasis on the variety of theories and methods central to the field.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

ARTH 991. Graduate Writing Seminar. 3 Credits.
Devoted to structuring an argument, assessing primary and secondary sources, and conducting a sustained writing exercise. The goal of the Graduate Writing Seminar is to produce a prospectus of the thesis by the end of the third semester. For Art History graduate students only.

Rules & Requirements
Grading Status: Letter grade.

ARTH 993. Master's Research and Thesis. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

ARTH 994. Doctoral Research and Dissertation. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

ARTS (Studio Art Courses)

Advanced Undergraduate and Graduate-level Courses

ARTS 402. Advanced Painting Projects. 3 Credits.
This course focuses on the historically rich practice of painting, and is designed to guide the advanced painting student through the research, conceptual, aesthetic, and technical components of a comprehensive studio practice, and developing and maintaining a studio work ethic.

Rules & Requirements
Requisites: Prerequisite, ARTS 302, 322, or 352; permission of the instructor for students lacking the prerequisite.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

ARTS 409. Art and Science: Merging Printmaking and Biology. 3 Credits.
This class explores the intersection of two disciplines, art and science. Research skills intrinsic to both include curiosity, close observation, experimentation, and visual analysis. Organized around printmaking projects informed by specific topics in biology, students adapt theory and practical skills from both disciplines to create artworks using several printmaking techniques. Permission of the instructors. Honors version available.

Rules & Requirements
IDEAs in Action Gen Ed: FC-CREATE, HI-PERFORM.
Requisites: Prerequisites, a 200-level BIOL course or a 200-level ARTS course, and permission of the instructor; Corequisite, BIOL 409L.
Grading Status: Letter grade.

ARTS 410. Public Art. 3 Credits.
This studio class explores public art from historical and critical perspective. Students will propose and create works of public art. Opportunities to implement projects will be explored through the Department of Art and other resources.

Rules & Requirements
IDEAs in Action Gen Ed: FC-AESTH or FC-CREATE.
Requisites: Prerequisite, ARTS 302, 303, or 305; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

ARTS 413. Advanced Ceramic Projects. 3 Credits.
Continuation of ARTS 313. May be repeated for credit.

Rules & Requirements
Requisites: Prerequisite, ARTS 313; permission of the instructor for students lacking the prerequisite.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

ARTS 414. Performance as Social Practice: Exploring Artistic Expression and Social Change. 3 Credits.
This course introduces the politics of performance art and its implications on social practice. Through a blend of seminar discussions, group workshops, and critique sessions, we will delve into various strategies for engaging with the medium. Our exploration will involve careful consideration of decolonial gestures, materiality, space, context, and intentionality. We'll analyze how contemporary artists navigate discourses surrounding race, gender, sexuality, nationality, and class. Active participation in reading discussions, exercises, and artist lectures is mandatory.

Rules & Requirements
IDEAs in Action Gen Ed: FC-CREATE.
Grading Status: Letter grade.

ARTS 415. Conceptual-Experimental Photography. 3 Credits.
An advanced photography course for students interested in contemporary photographic practices, critical theory, art history, and experimental processes: theory and practice, formal and conceptual investigations, and historical and contemporary strategies will all be given equal attention.

Rules & Requirements
Grading Status: Letter grade.

ARTS 416. Advanced Video. 3 Credits.
An introduction to the creative and technical processes in producing video art. Students will shoot and edit their own independent video projects. Some class time will be devoted to viewing video art and other media-based work.

Rules & Requirements
Requisites: Prerequisite, ARTS 106, ARTS 206; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

ARTS 417. Advanced Mixed Media Projects. 3 Credits.
Cultural production and practice, theory, and criticism. Pursuit of individual visual projects, formally and conceptually, through theoretical, poetic, art historical, and autobiographical texts, critiques, collaboration, and discussion using all media.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

ARTS 418. Advanced Printmaking. 3 Credits.
This course is appropriate for students who have had a minimum of three semesters of prior printmaking experience. Students submit a proposal outlining technical and artistic goals for the semester.

Rules & Requirements
Requisites: Prerequisites, ARTS 208 and any two of ARTS 238, 338, or 348; permission of the instructor for students lacking the prerequisites.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

ARTS 428. Book Art. 3 Credits.
Required preparation, one additional two-dimensional studio course (drawing, photography, or printmaking). Defining the book as a "multiple and sequential picture plane," this course considers a range of traditional approaches and conceptual departures of the book as a format for creative expression.

Rules & Requirements
Requisites: Prerequisite, ARTS 102.
Grading Status: Letter grade.

ARTS 458. Photo Printmaking. 3 Credits.
This course combines a technical approach (making printing matrices using photographic processes) with a conceptual framework (the photographic "voice" and its interpretation in printmaking). Artmaking projects explore salient ideas such as appropriation versus capture, documentation, truth-telling and fabrication, or narrative invention using specific technical processes such as photogravure and cyanotype.

Rules & Requirements
IDEAs in Action Gen Ed: HI-PERFORM.
Requisites: Prerequisites, ARTS 105 and 208; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

ARTS 490. Advanced Special Topics in Studio Art. 3 Credits.
Required preparation, any intermediate studio art course or permission of the instructor. Advanced consideration of selected topics in studio art.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

ARTS 493. Studio Art Practicum or Internship. 3 Credits.
Required preparation, 15 hours ARTS courses. Allows studio art majors to pursue unpaid practicums or internships for credit. Examples include working as a studio assistant or working in art-related fields, such as galleries, design firms, architectural firms, and nonprofit arts organizations. Work undertaken must comply with Federal criteria governing unpaid internships. Departmental approval required.

Rules & Requirements
IDEAs in Action Gen Ed: HI-INTERN.
Grading Status: Letter grade.

ARTS 500. Senior Professional Practices Seminar. 3 Credits.
This course is a capstone course for the studio art major. Appropriate for BFA students and BA students who anticipate careers in fine art and art adjacent fields (e.g. design.) Topics covered include issues of professional development, curatorial practice, and presentation of works of art in exhibition. The culminating project is mounting the Senior Exhibition. Restricted to senior studio art majors.

Rules & Requirements
Grading Status: Letter grade.

ARTS 515. Advanced Topics in Photography. 3 Credits.
May be repeated for credit.

Rules & Requirements
Requisites: Prerequisite, ARTS 205 or 215; permission of the instructor for students lacking the prerequisite.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

ARTS 596. Independent Study in Studio Art. 1-4 Credits.
Permission of the instructor. For students wishing to pursue additional media or thematic study beyond the advanced level. Students register with section numbers designated for faculty. May be repeated for credit.

Rules & Requirements
Repeat Rules: May be repeated for credit. 12 total credits. 4 total completions.
Grading Status: Letter grade.

ARTS 657. Movie Making Machines: Learning About Cinema in the Maker Space. 3 Credits.
This projects-based seminar will introduce students to the fundamental optical and technological principles of motion pictures. By using the Maker Space to design and fabricate pinhole cameras, zoetropes, and 16mm film strips, students will gain a deep understanding of the material and technological foundations of the cinema, and the operating principles that are behind not only the classic films of Hollywood's past, but the high-definition digital imaging technologies of the present.

Rules & Requirements
IDEAs in Action Gen Ed: FC-CREATE.
Requisites: Prerequisite, ARTS 105, 106, 209, or COMM 130; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Same as: COMM 657.

ARTS 690. Advanced Topics in Studio Art. 3 Credits.
Required preparation, any intermediate studio art course or permission of the instructor. Selected topics in studio art.

Rules & Requirements
Repeat Rules: May be repeated for credit. 3 total credits. 1 total completions.
Grading Status: Letter grade.

ARTS 691H. Senior Honors Thesis Project in Studio Art. 3 Credits.
Permission of the department. ARTS 691H is designed to enable studio art majors to pursue serious and substantial work. In addition to working with the instructor of record for ARTS 499/691H, students work under the supervision of an individual thesis advisor and committee.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

ARTS 692H. Senior Honors Thesis Project in Studio Art. 3 Credits.
ARTS 692H is taught concurrently with and by the instructor for ARTS 500. In addition to the classroom component, students continue to work with an individual thesis advisor and committee. Successful completion of ARTS 692H allows students to graduate with honors or highest honors.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Requisites: Prerequisite, ARTS 691H.
Grading Status: Letter grade.

Graduate-level Courses

ARTS 700. Graduate Studio Art Seminar. 3 Credits.
Graduate Studio Art Seminar

Rules & Requirements
Grading Status: Letter grade.

ARTS 701. Teaching Practicum. 3 Credits.
Teaching Practicum

Rules & Requirements
Grading Status: Letter grade.

ARTS 710. Graduate Studio. 1-21 Credits.
Rules & Requirements
Grading Status: Letter grade.

ARTS 713. Graduate Sculpture. 1-21 Credits.
Rules & Requirements
Grading Status: Letter grade.

ARTS 718. Graduate Printmaking. 1-21 Credits.
Rules & Requirements
Grading Status: Letter grade.

ARTS 720. Qualifying Review. 2 Credits.
Qualifying Review

Rules & Requirements
Grading Status: Letter grade.

ARTS 798. M.F.A. Graduate Group Critique. 3 Credits.
M.F.A. candidates meet weekly for organized group analysis and critique of their art work. Each candidate presents work on rotating basis before a panel of faculty and peers.

Rules & Requirements
Repeat Rules: May be repeated for credit. 12 total credits. 4 total completions.
Grading Status: Letter grade.

ARTS 992. Master's Project in Studio Art. 3 Credits.
Master's Project in Studio Art

Rules & Requirements
Repeat Rules: May be repeated for credit.

Contact Information

Department of Art
Visit Program Website (http://art.unc.edu)

Chair
Annette Lawrence

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DEPARTMENT OF ASIAN AND MIDDLE EASTERN STUDIES (GRAD)

The M.A. in Asian and Middle Eastern Studies is a two-year, interdisciplinary humanities degree that prepares students to engage with the social, environmental, and political challenges facing countries in Asia and the Middle East, and their transnational communities. Students can choose between two tracks: the interdisciplinary track and the Chinese track. This degree will provide students with deep cultural knowledge of Asia and the Middle East while training them in the intellectual flexibility necessary to grasp and work with complex and dynamic issues as they arise. By applying humanist approaches to real world problems, students will learn to evaluate research and apply analytical methodologies from various disciplines to specific situations and questions. This intellectual flexibility, the hallmark of humanist approaches attuned to change and contingency, is foundational to the type of leadership necessary for an interconnected world.

The M.A. in Asian and Middle Eastern Studies will prepare students linguistically, culturally, and intellectually for participation in top Ph.D. programs and for careers in government and non-profit and private sectors in or related to Asia and the Middle East. It is designed to complement professional degrees (e.g. in business, journalism, law, library and information science, global public health, medicine, public policy, social work) for students planning to practice abroad or with populations within the United States.

Master of Arts Degree

M.A. students must complete 33 hours of graduate study. At least 18 credit hours must be from courses offered within the Department of Asian and Middle Eastern Studies. At least 18 credit hours must be in courses numbered 700 or above. Students must complete a master's thesis.

M.A. students select one of two courses of study upon applying to the program: the Interdisciplinary track or the Chinese track.

The Interdisciplinary Track

Code	Title	Hours
ASIA 725	Critical Approaches to Asian and Middle Eastern Studies	3
ASIA 991	Research and Writing in Asian and Middle Eastern Studies	3
At least three courses within one of the following regions:		9
East Asia		
Middle East		
South Asia		
Five additional courses selected in consultation with a graduate advisor		15
ASIA 993	Master's Research and Thesis	3
Total Hours		**33**

Language Prerequisites and Expectations

Students in the interdisciplinary track must complete language study through 306 or its equivalent in a language taught within the Department of Asian and Middle Eastern Studies that is relevant to their research interests. Only courses numbered 400 and above may count towards the M.A., so students are encouraged to complete language study through 306 before beginning their M.A. They are also expected to continue language study beyond 306, and/or to develop advanced skills in one language and intermediate skills in a second language during their two years of M.A. coursework.

Students are strongly encouraged to complete a study abroad program or internship in their region of expertise either before or during M.A. study.

The Chinese Track

Code	Title	Hours
ASIA 725	Critical Approaches to Asian and Middle Eastern Studies	3
ASIA 991	Research and Writing in Asian and Middle Eastern Studies	3
At least three language and/or culture courses related to China		9
Five additional courses selected in consultation with a graduate advisor		15
ASIA 993	Master's Research and Thesis	3
Total Hours		**33**

Language Prerequisites and Expectations

CHIN 408 or its equivalent is a prerequisite for admission into the Chinese track. Students are strongly encouraged to continue their study of Chinese beyond the 408 level.

Students are strongly encouraged to complete a study abroad program or internship in China either before or during their M.A. study.

Professors

Mark Driscoll
Pamela Lothspeich
Morgan Pitelka
Robin Visser
Claudia Yaghoobi
Nadia Yaqub

Associate Professors

Uffe Bergeton
Li-ling Hsiao
Ji-Yeon Jo
Yaron Shemer
Afroz Taj

Assistant Professors

Kyoungjin Bae
Keren He
I Jonathan Kief
Yurika Tamura
Ana Vinea

Teaching Professors

Yuki Aratake
Yi Zhou

Teaching Associate Professors

Shahla Adel
Dongsoo Bang
Luoyi Cai
John Caldwell
Doria Elkerdany
Yuko Kato
Bud Kauffman
Eunji Lee
Lini Ge Polin
Katsu Sawamura
Hanna Sprintzik

Teaching Assistant Professors

Dwayne Dixon
Na Fan
Fumi Iwashita
Shuishui Long
Caroline Sibley

Affiliated Faculty

Barbara Ambros (Religious Studies)
Benjamin Arbuckle (Anthropology)
Cemil Aydin (History)
Inger Brodey (English and Comparative Literature)
Yong Cai (Sociology)
Jocelyn Chua (Anthropology)
Peter A. Coclanis (History)
Barbara Entwisle (Sociology)
Michael Figueroa (Music)
Banu Gökariksel (Geography)
Guang Guo (Sociology)
Juliane Hammer (Religious Studies)
Gail Henderson (Social Medicine)
Carmen Hsu (Romance Studies)
Heidi Kim (English and Comparative Literature)
Michelle King (History)
Charles Kurzman (Sociology)
David Lambert (Religious Studies)
Christian Lentz (Geography)
Lauren Leve (Religious Studies)
Townsend Middleton (Anthropology)
Christopher Nelson (Anthropology)
Lisa Pearce (Sociology)
Xue Lan Rong (Education)
Steven Rosefielde (Economics)
David Ross (English and Comparative Literature)
Sarah Shields (History)
Kumi Silva (Communication)
Jennifer Smith (Linguistics)
Sara Smith (Geography)
Yan Song (City and Regional Planning)
Eren Tasar (History)
Meenu Tewari (City and Regional Planning)
Michael Tsin (History)
Margaret Wiener (Anthropology)

Professors Emeriti

Jan Bardsley
Kevin Hewison
Wendan Li
Jerome P. Seaton

Associate Professor Emeritus

Gang Yue

Senior Lecturer Emeritus

Eric Henry

Courses

ASIA–Asian Studies

Advanced Undergraduate and Graduate-level Courses

ASIA 418. Family and Gender in Early Modern China and Korea. 3 Credits.
This course explores family and kinship in early modern China and Korea through the lens of gender and sexuality. In particular, it invites students to think beyond the bias that women in premodern East Asia were victims of patriarchy to understand their active participation in their world-making as well as their dynamic imagination and expression through writing, working, learning, loving.

Rules & Requirements

IDEAs in Action Gen Ed: FC-PAST or FC-POWER.
Grading Status: Letter grade.
Same as: HIST 418, WGST 418.

ASIA 420. Constructing Femininity: Women in Chinese Painting. 3 Credits.
This course examines issues of femininity and sexuality in Chinese painting from the Han Dynasty (206 B.C.-220 A.D.) to the end of dynastic China in the nineteenth century. Course topics include the ways in which pictures of women help to craft the notion of femininity in pre-modern Chinese society and the differing roles of women as painters, patronesses, and collectors.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH.
Grading Status: Letter grade.
Same as: ARTH 420.

ASIA 425. Beyond Hostilities: Israeli-Palestinian Exchanges and Partnerships in Film, Literature, and Music. 3 Credits.
Focuses on the various collaborations, exchanges, and mutual enrichment between Israelis and Palestinians in the realm of culture, particularly literature and cinema. These connections include language (Israeli Jewish authors writing in Arabic and Palestinian writers who choose Hebrew as their language of expression), collaborating in filmmaking, and joint educational initiatives.

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL or FC-POWER.
Grading Status: Letter grade.
Same as: PWAD 425, JWST 425.

ASIA 427. Cold War Culture in East Asia: Transnational and Intermedial Connections. 3 Credits.
This course introduces students to the specific contours that the Cold War accrued in East Asia. Focusing on literature and film, it explores what the fall of the Japanese Empire and the emergence of the post-1945 world meant across the region.

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL or FC-VALUES.
Grading Status: Letter grade.
Same as: CMPL 527, PWAD 427.

ASIA 429. Culture and Power in Southeast Asia. 3 Credits.
The formation and transformation of values, identities, and expressive forms in Southeast Asia in response to forms of power. Emphasis on the impact of colonialism, the nation-state, and globalization.

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL or FC-POWER.
Grading Status: Letter grade.
Same as: ANTH 429, FOLK 429.

ASIA 431. Persian Sufi Literature. 3 Credits.
This course aims to explore Persian Sufism, its foundation, Sufi practices and doctrines, and Sufi themes in literature. By looking at its development, we will examine the nature of Sufism, the controversies and debates, and the influence of Sufism on the literary dimension of the Islamic world.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-GLOBAL.
Grading Status: Letter grade.

ASIA 435. The Cinemas of the Middle East and North Africa. 3 Credits.
This course explores the social, cultural, political, and economic contexts in which films are made and exhibited and focuses on shared intra-regional cinematic trends pertaining to discourse, aesthetics, and production.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-GLOBAL.
Grading Status: Letter grade.
Same as: PWAD 435, CMPL 535.

ASIA 436. Language, Exile, and Homeland in Zionist Thought and Practice. 3 Credits.
Employing Zionist and post- and anti-Zionist documents, treatises, and mostly literary and cinematic texts, this class will focus on the relations between language, Jewish-Israeli identity, and the notion of homeland. Previously offered as HEBR 436.

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL or FC-POWER.
Grading Status: Letter grade.
Same as: JWST 436.

ASIA 440. Gender in Indian History. 3 Credits.
An analysis of the roles of women and men in Indian societies from the early to the modern periods. Topics include the cultural construction of gender and sexuality; beauty and bodily practices; gender and religion; gender and politics; race, imperialism, and gender. Previously offered as HIST/ASIA 556.

Rules & Requirements
Grading Status: Letter grade.
Same as: HIST 440.

ASIA 441. Religion, Co-existence, and Conflict in Pre-Colonial India. 3 Credits.
This course traces the fascinating history of material, cultural, and theological exchanges and conflicts between individuals belonging to two of the world's major religions: Hinduism and Islam. Throughout the course we will also analyze how modern commentators have selectively used the past to inform their understandings of the present. Previously offered as HIST/ASIA 555.

Rules & Requirements
Grading Status: Letter grade.
Same as: HIST 442.

ASIA 442. Postcolonial Literature of the Middle East. 3 Credits.
This course introduces students to postcolonial literature and theory. The main focus in the course is on literary texts and literary analysis. However, we will use postcolonial theory to engage critically with the primary texts within a postcolonial framework. We will explore language, identity, physical and mental colonization, and decolonization.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-GLOBAL, RESEARCH.
Grading Status: Letter grade.
Same as: CMPL 442.

ASIA 445. Asian Religions in America. 3 Credits.
A study of intercultural interaction and interreligious encounter focusing on Asian religions in America, 1784 to the present.

Rules & Requirements
Grading Status: Letter grade.
Same as: RELI 445.

ASIA 447. Gender, Space, and Place in the Middle East. 3 Credits.
Examines gender, space, and place relationships in the modern Middle East. Investigates shifting gender geographies of colonialism, nationalism, modernization, and globalization in this region. (GHA)

Rules & Requirements
Grading Status: Letter grade.
Same as: GEOG 447, WGST 447.

ASIA 453. Global Shangri-La: Tibet in the Modern World. 3 Credits.
An examination of the history, society, and culture of modern Tibet and its imagination in the context of international politics and from a multidisciplinary perspective.

Rules & Requirements
Grading Status: Letter grade.

ASIA 462. The Arab-Jews: Culture, Community, and Coexistence. 3 Credits.
This course is designed to examine Jewish life in Arab lands in the last century by examining culture, language, and the communal life that the Arab-Jews shared with their neighbors.

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL or FC-POWER.
Grading Status: Letter grade.
Same as: JWST 462, PWAD 462.

ASIA 469. Asian Economic Systems. 3 Credits.
This course provides an in-depth examination of the behavioral principles and performances of five core Asian economic systems: Japan, China, Taiwan/South Korea, North Korea and Thailand.

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL.
Requisites: Prerequisites, ECON 400, and 310 or 410; a grade of C or better in ECON 400, and 310 or 410 is required.
Grading Status: Letter grade.
Same as: ECON 469.

ASIA 471. Gender and Sexuality in Middle Eastern Literature. 3 Credits.
We examine gender and sexuality in literature written by various authors from the Middle East. Our discussions will focus on the significance of sexuality, harems, same-sex desire and homosexuality, construction of female sexuality, masculinity, contraception and abortion, the institution of marriage, gay/lesbian underground subcultures, and social media as sexual outlet.

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL or FC-POWER, RESEARCH.
Grading Status: Letter grade.
Same as: WGST 471.

ASIA 482. Sex, Gender, and Religion in South Asia. 3 Credits.
This seminar draws on feminist and philosophical theory, including the works of Plato, Butler, and Foucualt, as well as postcolonial theory, to explore the categories of sex and gender in South Asian religions. We also analyze the moral cultivation of the self in relation to gender identity in South Asia.

Rules & Requirements
Grading Status: Letter grade.
Same as: RELI 482, WGST 482.

ASIA 483. Cross-Currents in East-West Literature. 3 Credits.
The study of the influence of Western texts upon Japanese authors and the influence of conceptions of "the East" upon Western writers. Goldsmith, Voltaire, Soseki, Sterne, Arishima, Ibsen, Yoshimoto, Ishiguro.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-GLOBAL.
Grading Status: Letter grade.
Same as: CMPL 483.

ASIA 485. Gender and Sexuality in Islam. 3 Credits.
This course approaches constructions of gender and sexuality in Muslim societies in diverse historical and geographical contexts. It focuses on changing interpretations of gender roles and sexual norms. Themes include gender in Islamic law, sexual ethics, masculinity, homosexuality, marriage, and dress.

Rules & Requirements

IDEAs in Action Gen Ed: FC-POWER, RESEARCH.
Grading Status: Letter grade.
Same as: RELI 485.

ASIA 486. Islam and Feminism/Islamic Feminism. 3 Credits.
This course explores Muslim women scholars, activists, and movements that have, over the course of the past 150 years, participated in the debate about the compatibility and relationship of Islam and feminism. It offers an introduction to feminist debates about religion and patriarchy focusing on Islam as 'other' and juxtaposes it critical analysis of contextual expressions of Muslim and Islamic feminist activists, thinkers, and movements that challenge and change gender norms and practices.

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL or FC-POWER.
Grading Status: Letter grade.
Same as: RELI 486.

ASIA 487. Mountains, Pilgrimage, and Sacred Places in Japan. 3 Credits.
This course explores the role that mountains and pilgrimage have played in Japanese cosmology and how they relate to methodology of studying place and space.

Rules & Requirements
Grading Status: Letter grade.
Same as: RELI 487.

ASIA 488. Shinto in Japanese History. 3 Credits.
This course discusses the development of Shinto in Japanese history and covers themes such as myths, syncretism, sacred sites, iconography, nativism, religion and the state, and historiography.

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL or FC-PAST.
Grading Status: Letter grade.
Same as: RELI 488.

ASIA 489. Animals in Japanese Religion. 3 Credits.
Permission of the instructor. This course examines the cultural construction of animals in Japanese myth, folklore, and religion.

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL or FC-KNOWING.
Grading Status: Letter grade.
Same as: RELI 489.

ASIA 490. Advanced Topics in Asian Studies. 1-4 Credits.
The course topic will vary with the instructor.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 3 total completions.
Grading Status: Letter grade.

ASIA 496. Independent Readings. 1-3 Credits.
Permission of the department. For the student who wishes to create and pursue a project in Asian studies under the supervision of a selected instructor. Course is limited to three credit hours per semester.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

ASIA 522. Beauty and Power in the Classical Indian World. 3 Credits.
This course combines readings in representative literary cultures in Sanskrit and several other literary languages from India's classical period in translation, emphasizing poetry and related aesthetic theories, with scholarly readings on Sanskrit poetics, and the literary history of the period. Seminar format.

Rules & Requirements
IDEAs in Action Gen Ed: FC-AESTH or FC-KNOWING, RESEARCH.
Grading Status: Letter grade.

ASIA 536. Revolution in the Modern Middle East. 3 Credits.
This course will focus on revolutionary change in the Middle East during the last century, emphasizing internal social, economic, and political conditions as well as international contexts.

Rules & Requirements
Grading Status: Letter grade.
Same as: HIST 536.

ASIA 537. Women in the Middle East. 3 Credits.
Explores the lives of women in the Middle East and how they have changed over time. Focus will change each year.

Rules & Requirements
Grading Status: Letter grade.
Same as: HIST 537, WGST 537.

ASIA 538. The Middle East and the West. 3 Credits.
This course explores changing interactions between the Middle East and the West, including trade, warfare, scientific exchange, and imperialism, and ends with an analysis of contemporary relations in light of the legacy of the past.

Rules & Requirements
Grading Status: Letter grade.
Same as: HIST 538.

ASIA 539. The Economic History of Southeast Asia. 3 Credits.
This course is intended as a broad overview of Southeast Asian economic history from premodern times to the present day.

Rules & Requirements
Grading Status: Letter grade.
Same as: HIST 539.

ASIA 557. Fiction and History in India. 3 Credits.
This course examines the histories, representations, and cultural perceptions surrounding bandits and rebels in modern India. The representations of bandits and rebels are studied in the light of the emergence of nationalism, shifting notions of gender and masculinity, race relations, and emergence of capitalist structures.

Rules & Requirements
Grading Status: Letter grade.
Same as: HIST 557.

ASIA 570. The Vietnam War. 3 Credits.
A wide-ranging exploration of America's longest war, from 19th-century origins to 1990s legacies, from village battlegrounds to the Cold War context, from national leadership to popular participation and impact.

Rules & Requirements
Grading Status: Letter grade.
Same as: HIST 570, PWAD 570.

ASIA 581. Sufism. 3 Credits.
Permission of the instructor. A survey of Islamic mysticism, its sources in the Qur'an and the Prophet Muhammad, and its literary, cultural, and social deployment in Arab, Persian, Indic, and Turkish regions.

Rules & Requirements
IDEAs in Action Gen Ed: FC-GLOBAL or FC-PAST, RESEARCH.
Grading Status: Letter grade.
Same as: RELI 581.

ASIA 582. Islam and Islamic Art in South Asia. 3 Credits.
A survey of the formation of Islamic traditions in the subcontinent from the eighth century to the present, with emphasis on religion and politics, the role of Sufism, types of popular religion, and questions of Islamic identity.

Rules & Requirements
IDEAs in Action Gen Ed: FC-GLOBAL or FC-PAST.
Grading Status: Letter grade.
Same as: RELI 582.

ASIA 583. Religion and Culture in Iran, 1500-Present. 3 Credits.
Iran from the rise of the Safavid empire to the Islamic Republic. Topics include Shi'ism, politics, intellectual and sectarian movements, encounters with colonialism, art and architecture, music, literature.

Rules & Requirements
IDEAs in Action Gen Ed: FC-GLOBAL or FC-PAST.
Grading Status: Letter grade.
Same as: RELI 583.

ASIA 584. The Qur'an as Literature. 3 Credits.
A nontheological approach to the Qur'an as a literary text, emphasizing its history, form, style, and interpretation.

Rules & Requirements
IDEAs in Action Gen Ed: FC-AESTH or FC-PAST.
Grading Status: Letter grade.
Same as: RELI 584.

ASIA 587. Islam and Sexual Diversity. 3 Credits.
This course explores sexual norms and practices in Muslim contexts in the premodern and modern periods. It considers theories from sexuality, gender, and queer studies, and focuses on the contextual production of sexual norms, going beyond the sex and gender binary, and reflecting on a diverse range of sexual practices in Muslim communities and societies, analyzing concepts such as power, pleasure, control, as they are mapped onto and lived in diverse Muslim bodies.

Rules & Requirements

IDEAs in Action Gen Ed: FC-POWER or FC-VALUES.
Grading Status: Letter grade.
Same as: RELI 587.

ASIA 681. Readings in Islamicate Literatures. 3 Credits.
Permission of the instructor. Study of selected religious, literary, and historical texts in Arabic, Persian, or Urdu.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.
Same as: RELI 681, ARAB 681.

ASIA 682. Contemporary Chinese Society. 3 Credits.
Presents recent anthropological research on the People's Republic of China. In addition to social sciences sources, fictional genres are used to explore the particular modernity of Chinese society and culture.

Rules & Requirements
Grading Status: Letter grade.
Same as: ANTH 682.

ASIA 691H. Senior Honors Thesis I. 3 Credits.
Permission of the department. Required for honors students in Asian studies.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

ASIA 692H. Senior Honors Thesis II. 3 Credits.
Permission of the department. Required for honors students in Asian studies.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

Graduate-level Courses

ASIA 720. Methods and Themes in Asian and Middle Eastern History. 3 Credits.
This graduate-level course introduces recent scholarly publications in the broad field of Asian history. Covered themes include environmental history and space, colonial and urban contexts, daily life, and margins.

Rules & Requirements
Grading Status: Letter grade.

ASIA 721. Transnational Feminisms of the Middle East and South Asia. 3 Credits.
This seminar introduces students to transnational feminisms of the Middle East and South Asia. It examines a diverse range of women's thought and responses to the global and the local in this part of the world, with a focus on theoretical paradigms and tools to better understand women in a global context. Research methods also emphasized in this seminar.

Rules & Requirements
Grading Status: Letter grade.

ASIA 722. Asia in Motion: TransAsia and Transpacific Approaches to the Study of Asia. 3 Credits.
This graduate seminar examines theoretical and research texts related to the mobility of people, languages, ideas, and cultures across Asia and the Pacific. This course aims to critically investigate Asia's past and present with TransAsia and Transpacific perspectives through examining five main themes related to Asian mobilities; 1) Empires, 2) Labor, 3) Transnational Family, 4) Language and Media, and 5) Citizenship.

Rules & Requirements
Grading Status: Letter grade.

ASIA 723. Sound, Sensations, Transnational Asia. 3 Credits.
This course explores sound practices and sensations arising around lives in transnational Asia. Transnational, meaning anything that challenges the notion of rigid boundary of the nation-state and citizenship. Indigeneity, immigration, colonialism, exile, and diaspora are all part of the sonic discourses of this course. The sounds and listening practices found in a wide range of Asia in general (East, South Southeast, West Asia, and Asian America/West) are covered in this course.

Rules & Requirements
Grading Status: Letter grade.

ASIA 725. Critical Approaches to Asian and Middle Eastern Studies. 3 Credits.
This interdisciplinary graduate seminar is a foundational course for the M.A. in Asian and Middle Eastern Studies. The seminar introduces critical theories and disciplinary and interdisciplinary methodologies in studying South Asia, East Asia, and the Middle East. It studies the regions in part and as a whole by applying regional, transnational and global lenses, taking seriously relevant languages, cultural formations, histories, and philosophies. The seminar employs theoretical, ontological and epistemological terrains to critically analyze texts/media.

Rules & Requirements
Grading Status: Letter grade.

ASIA 730. The East Asian Anthropocene: Culture, Climate and Colonialism in Japan and China. 3 Credits.
This course is intended as a graduate seminar devoted to the new topic of the Anthropocene and the ways in which capitalism and climate change have emerged therein. However, we will focus on the ramifications of the Anthropocene for East Asia (especially Japan and China).

Rules & Requirements
Grading Status: Letter grade.

ASIA 731. Technologies of Imagination: Science, Cultural Production, East Asia. 3 Credits.
Focusing on East Asia, this seminar introduces students to scholarly intersections between science studies and literary and cultural studies. Drawing upon recent scholarship from these fields, it explores the intertwined pasts and presents of scientific, technological, and cultural production. In so doing, it challenges students to think critically about the contingent nature of disciplinary boundaries and the centrality of East Asia's place in global flows of knowledge, objects, and expression.

Rules & Requirements
Grading Status: Letter grade.

ASIA 732. Making: Technology and Material in Modern East Asia. 3 Credits.
This graduate seminar introduces students to the joint methods of material culture studies and the history of science and technology with a focus on early modern and modern East Asia. It interweaves the two fields of study through the framework of "making." The course comprises two components -- reading-based discussion and research. Students will learn, evaluate, and build research methods through discussion and use them to conduct research and write research papers.

Rules & Requirements
Grading Status: Letter grade.

ASIA 740. Chinese Civilization: A Conceptual History. 3 Credits.
This seminar will look at how terms for concepts of 'civilization' in different languages (Old Chinese, Modern Mandarin, English, Japanese) and different historical periods have been used to refer to what is now China as a "civilization." This graduate seminar explores the roles played by various notions of 'civilization' in the articulation of different conceptualizations of "Chinese civilization."

Rules & Requirements
Grading Status: Letter grade.

ASIA 741. Honglou Meng: The Story of the Stone. 3 Credits.
This course focuses on the most celebrated novel titled Honglou Meng or The Story of the Stone by Cao Xueqin (1715-1763). This 120-chapter-long novel tells the downfall of a great aristocratic family that is presented as a microcosm of traditional Chinese societies. The novel features all aspects of traditional Chinese cultures including architecture and garden, education, families and interfamilial connections, generational relationships, genders, history, marriages, mythology, philosophies, poetry, etc.

Rules & Requirements
Grading Status: Letter grade.

ASIA 742. Indigenous Ecologies in Literatures of China and Taiwan. 3 Credits.
This seminar applies theories from Postcolonial Ecocriticism and Sinophone Studies to analyze diverse Indigenous ecologies in environmental literature from China and Taiwan. We read poems, philosophy, and fiction featuring the cosmologies of Han and Uyghur farmers, Tibetan, Mongolian, and Kazakh nomads, Indigenous Taiwanese hunters and fishers, and Hmong foragers, analyzing relational ontologies among humans, non-human animals, assemblages, and ecosystems. Knowledge of Chinese language, literature, history, or philosophy recommended but not required.

Rules & Requirements
Grading Status: Letter grade.

ASIA 743. Age Studies in Chinese and Sinophone Media. 3 Credits.
This course examines how old age has been problematized and negotiated in literature and media over the last four decades, when prolonged life expectancy initiated the shift of the PRC, Taiwan, and Hong Kong into aging societies. Engaging with age-themed literary and cinematic materials, spanning memoir and pathography to family melodrama, documentary, and science fiction, students will examine how old age is at once produced and problematized through cultural imaginations.

Rules & Requirements
Grading Status: Letter grade.

ASIA 770. The Moving Imagination. 3 Credits.
This graduate seminar investigates competing concepts of modernity in South Asia as imagined in film and television media. We begin by exploring how notions of modernity have emerged in South Asia, and how film and television have imagined a "modern" society. Particular topics covered include social justice, gender, nation, globalization, and cosmopolitanism. We will also engage with critiques of films, television programs, and Internet-based videos with respect to social justice, environment, and technology.

Rules & Requirements
Grading Status: Letter grade.

ASIA 771. Performance in South Asia: Contexts and Theories. 3 Credits.
This seminar examines a range of performance practices in South Asia, and some of the theories and methods scholars have used to research and understand them. It especially focuses on emerging analytical frameworks and approaches currently shaping the field. In this seminar, "performance" is conceptualized broadly to include aesthetic, social and political forms of performance spanning theatre, dance, musical concerts, film, religious events, military rituals, and so forth.

Rules & Requirements
Grading Status: Letter grade.

ASIA 780. Minorities in the Middle East. 3 Credits.
This course enriches students' understanding of the diversity of Middle Eastern countries, exploring histories of intercommunal contact and conflict. We will investigate contemporary representations and lived realities of religious, ethnic, and sexual minorities of the Middle East from diverse political, cultural, historical and aesthetic perspectives. Although the majority of people living in the Middle East converted to Islam after the Arab conquests, there remained important minorities including indigenous Christians, Jews, and in Iran some Zoroastrians.

Rules & Requirements
Grading Status: Letter grade.

ASIA 781. The Body and Body Politics in the Arab World. 3 Credits.
What is political about the body? This seminar introduces students to social scientific and humanistic approaches to the body. Instead of taking the body as simply a biological entity, it places it within a wider network of meanings, practices, institutions, histories, and forms of power. The course explores the operations of different regimes of power on and in the body and, conversely, shows how the body can become a locus of resistance and creativity.

Rules & Requirements
Grading Status: Letter grade.

ASIA 782. Visual Culture of the Middle East. 3 Credits.
Examines the role of images in the modern ME & how these images shape transnational relationships and conceptions of the region within the global imaginary. How do images "speak"? What role do they play in constructing subjectivities and identities of belonging? What is their relationship to power locally and globally? We will analyze a variety of texts and media (film, photography, video, television, modern art, street art, graphic novels, social media, etc) from the ME.

Rules & Requirements
Grading Status: Letter grade.

ASIA 783. Critical Postcolonial Perspectives on the Arab-Jew: Promises and Limitations. 3 Credits.
This seminar investigates the rise of the radical discourse and literature on the Arab-Jew / Mizrahi in the late 1980s and explores its connection to Israel's "new historians," post-Zionism, and post-nationalism and to Third-worldism. With the increasing presence of the Arab-Jew / Mizrahi in academic discourse and, to an extent, in Israeli (and Arab) media and culture, the original discourse has witnessed various permutations and increasing diversification from its inception to the present.

Rules & Requirements
Grading Status: Letter grade.

ASIA 785. Critical Genealogies of Middle East and North Africa Studies. 3 Credits.
This seminar is the core course for the graduate certificate in Middle East studies. It is an introduction to critical issues in the disciplinary, interdisciplinary, and cross-disciplinary study of the Middle East.

Rules & Requirements
Grading Status: Letter grade.

ASIA 790. Graduate Seminar on Topics in Asian and Middle Eastern Studies. 3 Credits.
The course topic will vary with the instructor.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

ASIA 796. Independent Study in Asian and Middle Eastern Studies. 3 Credits.
Requires department permission. Student will create and pursue an individual research project in Asian and Middle Eastern studies under the supervision of a selected instructor. Permission of the department.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 6 total credits. 2 total completions.
Grading Status: Letter grade.

ASIA 991. Research and Writing in Asian and Middle Eastern Studies. 3 Credits.
This seminar guides students through the major stages and mechanics of thesis writing, including focusing your topic and research questions, finding primary and secondary sources, writing a prospectus and a literature review, developing your argument cohesively across chapters, organizing chapters, building a bibliography, proper citation, and formatting the thesis. The seminar serves as a forum for reading and presenting on academic scholarship in the field and as a writing workshop. DAMES MA students only.

Rules & Requirements
Grading Status: Letter grade.

ASIA 993. Master's Research and Thesis. 3 Credits.
Individual research in a special field under the direction of a member of the department.

Rules & Requirements
Repeat Rules: May be repeated for credit.

ARAB–Arab World (in English) and Arabic

Advanced Undergraduate and Graduate-level Courses

ARAB 407. Readings in Arabic I. 3 Credits.
Classical and/or modern readings in Arabic and discussions in conversational Arabic, according to the students' interest.

Rules & Requirements
Requisites: Prerequisite, ARAB 306.
Grading Status: Letter grade.

ARAB 408. Readings in Arabic II. 3 Credits.
Classical and/or modern readings in Arabic and discussions in conversational Arabic, according to the students' interest.

Rules & Requirements
Requisites: Prerequisite, ARAB 306.
Grading Status: Letter grade.

ARAB 409. Performing Arts in the Arab World. 3 Credits.
This is an advanced Arabic course in which students develop reading, writing, speaking, listening, and intercultural skills through the study of various forms of performance, including theater, music, dance, poetry, and film, from across the Arab world.

Rules & Requirements
IDEAs in Action Gen Ed: FC-AESTH.
Requisites: Prerequisite, ARAB 306.
Grading Status: Letter grade.

ARAB 410. Visual Arts in the Arab World. 3 Credits.
This is an advanced Arabic course in which students develop reading, writing, speaking, listening, and intercultural skills through the study of various images, films, and readings about visual culture in the Arab world.

Rules & Requirements
IDEAs in Action Gen Ed: FC-AESTH.
Requisites: Prerequisite, ARAB 306.
Grading Status: Letter grade.

ARAB 432. Science and Society in the Middle East. 3 Credits.
This class explores science and society in the modern Middle East. Drawing on works from anthropology and history, it investigates how science interacts with, is shaped by, and reflects wider processes and formations such as nationalism, colonialism, religion, subject formation, or cultural production. Previously offered as ARAB 353.

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL or FC-KNOWING, RESEARCH.
Grading Status: Letter grade.
Same as: ANTH 432.

ARAB 434. Modern Arabic Literature in Translation. 3 Credits.
We will study fiction from several countries in the Arab world with a particular emphasis on recent works. This literature has arisen out of the lived experiences of people in the Arab world, but each work creates a world of its own. What strategies do writers use for this world-making? What relationships might exist between these fictional worlds and their writing contexts? Who is addressed by these works? Previously offered as ARAB 334.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-KNOWING.
Grading Status: Letter grade.

ARAB 453. Film, Nation, and Identity in the Arab World. 3 Credits.
Introduction to history of Arab cinema from 1920s to present. Covers film industries in various regions of the Arab world and transnational Arab film. All materials and discussion in English.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-KNOWING.
Grading Status: Letter grade.

ARAB 496. Independent Readings in Arabic. 1-3 Credits.
Permission of the department. For the student who wishes to create and pursue an independent project in Arabic under the supervision of a selected instructor. Maximum three credit hours per semester.

Rules & Requirements
Repeat Rules: May be repeated for credit. 12 total credits. 4 total completions.
Grading Status: Letter grade.

ARAB 681. Readings in Islamicate Literatures. 3 Credits.
Permission of the instructor. Study of selected religious, literary, and historical texts in Arabic, Persian, or Urdu.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.
Same as: RELI 681, ASIA 681.

CHIN–China (in English) and Chinese

Advanced Undergraduate and Graduate-level Courses

CHIN 407. Readings in Modern Chinese I. 3 Credits.
Read authentic texts of modern Chinese, including newspaper articles and writings of literary, cultural, and social interest. Writing Chinese characters is required.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-KNOWING.
Requisites: Prerequisite, CHIN 306.
Grading Status: Letter grade.

CHIN 408. Lens on China: Learning Chinese via Films. 3 Credits.
This course aims to make students more competent in expressing their opinions orally and in academic written language on sophisticated topics such as current events, pop culture, social issues, politics, history, etc. Students learn selected topics through contemporary films and documentaries. They also read and discuss a wide range of authentic texts, including newspaper articles, scripts, social media posts, etc. Handwriting Chinese characters is NOT required.

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING.
Requisites: Prerequisite, CHIN 407.
Grading Status: Letter grade.

CHIN 439. Environmental China: Premodern Political Ecology. 3 Credits.
This course explores the history of premodern China from an environmental perspective. Based on mini-lectures and intensive discussions, it investigates diverse modes and sites of human-nature interactions such as agriculture, forestry, marine activities, natural disasters, and landscape cultivation.

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING or FC-PAST, RESEARCH.
Grading Status: Letter grade.
Same as: HIST 439.

CHIN 441. Chinese-English Translation and Interpreting. 3 Credits.
Instruction and practice in Chinese-to-English translation (written) and interpreting (oral), designed for second-language learners of Chinese. Students work with materials covering many fields. Students in track A can take this course either concurrently with or after CHIN 407, but students in track B can take this course only after completing CHIN 313.

Rules & Requirements

IDEAs in Action Gen Ed: HI-SERVICE, COMMBEYOND.
Grading Status: Letter grade.

CHIN 443. Business Communication in Chinese. 3 Credits.
The goal of this course is to improve students' overall language proficiency using Chinese in cross-cultural workplaces. They will develop enhanced skills of reading business journalism and case studies, writing business letters or email messages, and discussing ethical, cultural, and global issues affecting business communication. Students in track A can take this course either concurrently with or after CHIN 407, but students in track B can take this course only after completing CHIN 313.

Rules & Requirements
Grading Status: Letter grade.

CHIN 445. Chinese Tea Culture and Its Changing Landscape. 3 Credits.
An advanced Chinese language course that explores the world of Chinese tea culture, history and its impact on everyday life in contemporary China. Myths and philosophies related to tea will be analyzed to offer students a deeper understanding of Chinese tea history and culture. Students in track A can take this course either concurrently with or after CHIN 407, but students in track B can take this course only after completing CHIN 313.

Rules & Requirements
Grading Status: Letter grade.

CHIN 463. Narrative Ethics in Modern China. 3 Credits.
By exploring intersections of the narrative and the normative, this course considers relations between text, ethics, and everyday life in 20th-century China by reading texts on aesthetics.

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING or FC-VALUES.
Grading Status: Letter grade.

CHIN 464. The City in Modern Chinese Literature and Film. 3 Credits.
This course analyzes historical changes of the city through examining the individual, national, and global identity of Shanghai, Beijing, Taipei, and Hong Kong as reflected in their histories, politics, built environment, ethos, language, and culture.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-KNOWING.
Grading Status: Letter grade.

CHIN 475. Confucianism: Origin, History, and Contemporary Relevance. 3 Credits.
Confucianism is a millennia-long tradition of global reach. By reading and analyzing key ancient Confucian scriptures students will engage directly with philosophical questions of such as the origin of normative values and how to invoke them to solve ethical problems. They will also trace the history of the spread of the cultural and political influence of Confucianism in East Asia and its various receptions and (re-)interpretations in the West.

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL or FC-VALUES, RESEARCH.
Grading Status: Letter grade.

CHIN 476. Daoism: Origin, History, and Contemporary Relevance. 3 Credits.
Daoism is a millennia-long tradition of global reach. By reading and analyzing key ancient Daoist scriptures students will engage directly with philosophical questions of such as the origin of normative values and how to invoke them to solve ethical problems. They will also trace the history of the spread of the cultural and political influence of Daoism in East Asia and its various receptions and (re-)interpretations in the West.

Rules & Requirements

IDEAs in Action Gen Ed: FC-VALUES, RESEARCH.
Grading Status: Letter grade.

CHIN 480. Queering China. 3 Credits.
This course explores "queer" expressions in Chinese literature and visual culture from 1949 through the twenty-first century. It surveys a combination of all-time classics and lesser-known cultural texts featuring non-heteronormative sexual desire and gender-bending performance. We mobilize queer as a broad site of critique beyond Western models of the concept, asking not only how queer challenges normative bodyminds, but also how it negotiates notions of age, family, race, and the neoliberal order.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-POWER.
Grading Status: Letter grade.
Same as: CMPL 480, WGST 480.

CHIN 490. Topics in Chinese Literature and Language. 3 Credits.
Readings in Chinese literature and language on varying topics. May be taken more than once for credit as topics change. Students in track A can take this course either concurrently with or after CHIN 407, but students in track B can take this course only after completing CHIN 313.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

CHIN 496. Independent Readings in Chinese. 1-3 Credits.
Permission of the department. For the student who wishes to create and pursue an independent project in Chinese under the supervision of a selected instructor. Maximum three credit hours per semester.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

CHIN 510. Introduction to Classical Chinese. 3 Credits.
Advanced study of Chinese classics. Students in track A can take this course either concurrently with or after CHIN 407, but students in track B can take this course only after completing CHIN 313.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH.
Grading Status: Letter grade.

CHIN 520. Stay Tuned to China. 3 Credits.
This course enables students to stay tuned to ongoing discussions surrounding social and cultural issues in China. We will gain insights into major topics of concern for Chinese native speakers today, such as social stratification and inequality, changing gender dynamics, technology in everyday life, Internet subculture, authoritarianism, and the medical crisis during COVID. Conducted in Mandarin; NOT open to native speakers who have received their middle-school education in Chinese.

Rules & Requirements

IDEAs in Action Gen Ed: FC-POWER.
Requisites: Prerequisite, CHIN 407 or CHIN 313.
Grading Status: Letter grade.

CHIN 521. Chinese History in Chinese. 3 Credits.
This is a fifth-year Chinese course offered as a language course to improve students' language abilities and as a content course surveying Chinese history in Chinese.

Rules & Requirements
Requisites: Prerequisite, CHIN 408 or CHIN 313.
Grading Status: Letter grade.

CHIN 525. Ancient Philosophers and Their Modern Reincarnation. 3 Credits.
Recommended preparation, CHIN 510. This course examines the reinterpretation and appropriation of ancient Chinese philosophy in contemporary China, on such themes as Confucian ethics and Daoist metaphysics and aesthetics.

Rules & Requirements
IDEAs in Action Gen Ed: FC-GLOBAL or FC-VALUES.
Requisites: Prerequisite, CHIN 408, or 313.
Grading Status: Letter grade.

CHIN 545. Chinese Science Fiction. 3 Credits.
This research seminar contextualizes the contemporary explosion of Chinese science fiction within modern Chinese intellectual history and SF studies worldwide. We read globally influential novels such as The Three-Body Problem and trace several waves of the genre's century-long evolution within Chinese literature. We ask how threats of global annihilation, the exhaustion of environmental resources, discoveries in virology, epigenetics, and innovations in cybernetics intersect with global development, climate migration, decolonization, and structures of race and class.

Rules & Requirements
IDEAs in Action Gen Ed: FC-AESTH or FC-GLOBAL, RESEARCH.
Grading Status: Letter grade.
Same as: CMPL 545.

CHIN 551. Chinese Poetry in Translation. 3 Credits.
Selected topics in Chinese poetry concentrating on one period or one genre.

Rules & Requirements
IDEAs in Action Gen Ed: FC-AESTH or FC-KNOWING, RESEARCH.
Grading Status: Letter grade.

CHIN 552. Chinese Prose in Translation. 3 Credits.
Selected topics in Chinese fiction, historical writing, and prose belles letters, concentrating on one period or one genre.

Rules & Requirements
IDEAs in Action Gen Ed: FC-AESTH.
Grading Status: Letter grade.

CHIN 562. Contemporary Chinese Urban Culture and Arts. 3 Credits.
This course analyzes contemporary Chinese urban art, architecture, cinema, and fiction to elucidate dynamics between the built environment and subjectivity. Students analyze how social, economic, and political factors shape environments, and debate whether new urban spaces create social conflict or new civil possibilities.

Rules & Requirements
IDEAs in Action Gen Ed: FC-AESTH or FC-KNOWING.
Grading Status: Letter grade.

CHIN 590. Advanced Topics in Chinese Literature and Language. 3 Credits.
This is an advanced topics course in Chinese literature and language, culture and society. The instruction is entirely in Chinese with the use of authentic materials. Three hours per week.

Rules & Requirements
Requisites: Prerequisite, CHIN 408 or 313.
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

CHIN 624. Chinese Internet Literature. 3 Credits.
Recommended preparation, at least one advanced Chinese language course above the CHIN 408 or CHIN 313 level. This is a content and language course designed for advanced (native or near-native fluency) undergraduate and graduate students to enhance the four language abilities and cultural literacy. Students will read The Story of Minglan, and analyze the problematic portrayals of traditional women's domestic lives.

Rules & Requirements
Requisites: Prerequisite, CHIN 313 or CHIN 408.
Grading Status: Letter grade.

CHIN 631. Writing Chinese (in) America: Advanced Studies of a Foreign Literature from United States Homeland. 3 Credits.
Recommended preparation, at least one advanced Chinese language course above the CHIN 408 or CHIN 313 level. Encompasses a century of literary writings on the experiences of Chinese in the United States. The select works are written for Chinese communities worldwide, hence "writing Chinese in America," while they reflect upon the formation of Chinese American identity, therefore "writing Chinese America."

Rules & Requirements
IDEAs in Action Gen Ed: FC-AESTH or FC-POWER.
Requisites: Prerequisite, CHIN 313 or CHIN 408.
Grading Status: Letter grade.

HNUR–South Asia (in English) and Hindi-Urdu

Advanced Undergraduate and Graduate-level Courses

HNUR 407. South Asian Society and Culture. 3 Credits.
Advanced language course introducing authentic readings on cultural and social topics relating to modern South Asian society. Texts are supplemented by case studies and interviews. Course is taught in Hindi-Urdu and provides further training in speaking and writing. Participation in extracurricular activities is encouraged.

Rules & Requirements
IDEAs in Action Gen Ed: FC-GLOBAL or FC-VALUES.
Requisites: Prerequisites, HNUR 305 and 306.
Grading Status: Letter grade.

HNUR 408. South Asian Media and Film. 3 Credits.
This advanced language course introduces students to authentic film and visual and print media from modern South Asia, analyzed within historical, social, and aesthetic contexts. Course is taught in Hindi-Urdu with further training in speaking and writing. Participation in relevant extracurricular activities is encouraged.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-CREATE.
Requisites: Prerequisites, HNUR 305 and 306.
Grading Status: Letter grade.

HNUR 409. Sex and Social Justice in South Asia. 3 Credits.
This seminar explores the issues of gender, sexuality, and social justice in modern India and Pakistan. The course uses a variety of media sources, including monographs, films, television shows, documentaries, newspapers, and magazines.

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL.
Requisites: Prerequisites, HNUR 305 and 306.
Grading Status: Letter grade.

HNUR 410. Seminar on the Urdu-Hindi Ghazal. 3 Credits.
Ghazal is the most important genre of Urdu-Hindi poetry from the 18th century to the present. This course, taught in Hindi-Urdu, concerns the analysis and interpretation of ghazals.

Rules & Requirements
Requisites: Prerequisite, HNUR 305 and 306.
Grading Status: Letter grade.

HNUR 411. Health and Medicine in South Asia. 3 Credits.
This seminar explores approaches to health and medicine in India and Pakistan, and contemporary public health challenges in South Asia and diaspora communities in North Carolina. Also addresses "alternative" systems of medical thought in South Asia including Ayurveda, Unani Medicine, Yoga, Naturopathy, and Homeopathy.

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING or FC-VALUES.
Requisites: Prerequisites, HNUR 305 and 306.
Grading Status: Letter grade.

HNUR 490. Topics in Hindi-Urdu Literature and Language. 3 Credits.
Course may be repeated for credit as topic changes. Possible areas of study include Indian film and literature, Hindi-English translations, the Indian diaspora, Hindi journalism, and readings in comparative religions.

Rules & Requirements
Requisites: Prerequisites, HNUR 305 and 306.
Repeat Rules: May be repeated for credit. 12 total credits. 4 total completions.
Grading Status: Letter grade.

HNUR 496. Independent Readings in Hindi-Urdu. 1-3 Credits.
Permission of the department. For the student who wishes to create and pursue an independent project in Hindi-Urdu under the supervision of a selected instructor. Maximum three credit hours per semester.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

HNUR 592. Religious Conflict and Literature in India. 3 Credits.
Historical causes of violence between Hindus and Muslims in modern India. Short stories, poetry, and novels in translation are used to explore how conflicts over religious sites, religious conversion, image worship, and language contributed to a sense of conflicting religious identity.

Rules & Requirements
Grading Status: Letter grade.
Same as: RELI 592.

JAPN–Japan (in English) and Japanese

Advanced Undergraduate and Graduate-level Courses

JAPN 401. Gateway to Mastering Japanese. 3 Credits.
This course reviews the key grammar, vocabulary, and characters from the first three years of Japanese in preparation for the more advanced work of fourth-year elective courses.

Rules & Requirements
Requisites: Prerequisite, JAPN 306.
Grading Status: Letter grade.

JAPN 408. Japanese Journalism. 3 Credits.
Uses newspaper and magazine articles and television broadcasts to introduce journalistic writing and speech as well as contemporary social and cultural issues. Class conducted in Japanese. Participation in relevant extracurricular activities encouraged.

Rules & Requirements
Requisites: Prerequisite, JAPN 306.
Grading Status: Letter grade.

JAPN 410. Topics in Contemporary Japanese Literature. 3 Credits.
This course introduces students to the popular writing, both fiction and nonfiction, designed for mass-market consumption in contemporary Japan. Class conducted in Japanese. Participation in relevant extracurricular activities encouraged.

Rules & Requirements
Requisites: Prerequisite, JAPN 306.
Grading Status: Letter grade.

JAPN 411. Food and Culture in Japan. 3 Credits.
Advanced Japanese course designed to develop Japanese skills and deepen appreciation of Japanese cooking. Students will develop the ability to discuss and write about topic-oriented issues in Japanese.

Rules & Requirements
Requisites: Prerequisite, JAPN 306.
Grading Status: Letter grade.

JAPN 412. Making Music in Japan. 3 Credits.
Students will learn a history of postwar Japanese music as an integral part of Japanese society and culture, and try to understand what messages each song attempts to communicate.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH.
Requisites: Prerequisite, JAPN 306.
Grading Status: Letter grade.

JAPN 414. Manga as a Japanese Art and Culture. 3 Credits.
This course explores contemporary Japanese language and culture through the pop cultural media of manga and anime. Topics include manga history, production, and various genres of Japanese comic books, manga.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH.
Requisites: Prerequisite, JAPN 306.
Grading Status: Letter grade.

JAPN 415. Sports in Japanese Culture. 3 Credits.
Introduces students to the unique Japanese cultural perspective on sports, while introducing new kanji and grammar structures and improving reading, speaking, and writing abilities.

Rules & Requirements
Requisites: Prerequisite, JAPN 306.
Grading Status: Letter grade.

JAPN 416. Understanding Japanese Business Culture and Its Practice. 3 Credits.
Students will learn about business culture in Japan, including customs and rules, in order to broaden their understanding of Japanese culture and people, while improving their language skills.

Rules & Requirements
Requisites: Prerequisite, JAPN 306.
Grading Status: Letter grade.

JAPN 417. Japanese Culture through Film and Literature. 3 Credits.
This course helps students to improve their Japanese language skills while developing an understanding of Japanese culture through films and literature. Exercises include reading novels in Japanese, close observation of Japanese films, analysis of cultural context, writing summaries, and frequent discussion.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-GLOBAL.
Requisites: Prerequisite, JAPN 306.
Grading Status: Letter grade.

JAPN 418. Service Learning in Japanese Language. 3 Credits.
The primary goal of this course is to prepare students to work, using the Japanese language in their desired occupation, such as in business, teaching at school, research, and so forth.

Rules & Requirements

IDEAs in Action Gen Ed: HI-SERVICE, COMMBEYOND.
Requisites: Prerequisite, JAPN 306.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

JAPN 482. Embodying Japan: The Cultures of Beauty, Sports, and Medicine in Japan. 3 Credits.
Explores Japanese culture and society through investigating changing concepts of the human body. Sources include anthropological and history materials, science fiction, and film.

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL or FC-KNOWING.
Grading Status: Letter grade.

JAPN 489. Women, Margin, Writing, and Transnational Japan. 3 Credits.
This course explores literary and media art produced by women from various political and social margins of Japan, voiced from their transnational subjectivities. The transnational situations include: immigration, colonialism, diaspora, and international coalition as well as globalizing feminist alliance. By focusing on literature, film, and performance, this course takes an interdisciplinary approach to women's creative political statements.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH.
Grading Status: Letter grade.
Same as: WGST 489.

JAPN 490. Topics in Japanese Language and Literature. 3 Credits.
Possible areas of study include popular culture, business Japanese, and Japanese-English translation. Course may be repeated for credit as topic changes. Participation in relevant extracurricular activities encouraged.

Rules & Requirements
Requisites: Prerequisite, JAPN 306.
Repeat Rules: May be repeated for credit. 12 total credits. 4 total completions.
Grading Status: Letter grade.

JAPN 496. Independent Readings in Japanese. 1-3 Credits.
Permission of the department. For the student who wishes to create and pursue an independent project in Japanese under the supervision of a selected instructor. Maximum three credit hours per semester.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

JAPN 563. Structure of Japanese. 3 Credits.
Introductory linguistic description of modern Japanese. For students of linguistics with no knowledge of Japanese and students of Japanese with no knowledge of linguistics.

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING.
Requisites: Prerequisite, JAPN 102 or LING 101.
Grading Status: Letter grade.
Same as: LING 563.

JAPN 590. Advanced Topics in Japanese Language and Literature. 3 Credits.
Topic varies by instructor. Possible topics include Japanese literature, popular culture, and media. Course may be repeated for credit as topic changes. Participation in relevant extracurricular activities encouraged.

Rules & Requirements
Requisites: Prerequisite, JAPN 306.
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

KOR–Korea (in English) and Korean

Advanced Undergraduate and Graduate-level Courses

KOR 407. Modern Korean Literature and Culture. 3 Credits.
Modern Korean literature by major authors, from around 1940 to the present. Emphasis on reading, translation, and criticism. Students will improve their written and oral communication skills in Korean through the study of literary works in their social, cultural, and historical context.

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL.
Requisites: Prerequisite, KOR 306.
Grading Status: Letter grade.

KOR 408. Changes and Continuities in Korean History. 3 Credits.
This course is conducted in Korean, emphasizing reading, translating, and criticism. This is a general introduction to Korean history from the first kingdom of the Korean Peninsula, Gojoseon, to the last kingdom, Joseon Dynasty.

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL.
Requisites: Prerequisite, KOR 306.
Grading Status: Letter grade.

KOR 409. Korean Through Current Affairs. 3 Credits.
This course aims at a deeper understanding of Korean society, through critical analysis of language use and viewpoints expressed in various types of media. This course will also focus on cultural products and practices.

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL.
Requisites: Prerequisite, KOR 306.
Grading Status: Letter grade.

KOR 447. Documenting Diasporas: Korean Diasporas in Films and Documentaries. 3 Credits.
In this course, we will explore the multiple, shifting, and often contested diasporic subjectivities represented and produced in Korean diaspora cinemas; these subjectivities encompass various Korean diaspora communities in Asia, Central Asia, Europe, and the Americas.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-KNOWING.
Grading Status: Letter grade.
Same as: CMPL 547.

KOR 490. Topics in Korean Language and Literature. 3 Credits.
Topic varies and course may be repeated for credit as topics change.

Rules & Requirements
Requisites: Prerequisite, KOR 306.
Repeat Rules: May be repeated for credit. 12 total credits. 4 total completions.
Grading Status: Letter grade.

KOR 496. Independent Readings in Korean. 1-3 Credits.
Permission of the department. For the student who wishes to create and pursue an independent project in Korean under the supervision of a selected instructor. Maximum three credit hours per semester.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

Contact Information

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DEPARTMENT OF BIOCHEMISTRY AND BIOPHYSICS (GRAD)

The Department of Biochemistry and Biophysics is an administrative division of the School of Medicine and a member of The Graduate School. The graduate program offers instruction and research opportunities leading to the Ph.D. degree. Applicants are offered admission with the expectation that they will complete their doctorate. While the curriculum is designed as a Ph.D. program, a terminal master's degree can be offered under special circumstances.

Modern research in biochemistry and biophysics is designed to address mechanism and function; it utilizes the paradigms of molecular biology but is influenced by chemistry, physics, and genetics. The philosophy of the department and its graduate program is to provide students with broad training in modern approaches to the field and unique opportunities for multidisciplinary training.

Financial Aid and Admissions

Funds available from the University, the department, and individual research grants provide stipends for students. All applicants are considered for special fellowships and research or teaching assistantships. Students typically receive a stipend and coverage of in-state tuition and fees, along with major medical insurance. Nonresidents with predoctoral fellowships or assistantships are recommended for special tuition rates. Applications are considered from prospective graduate students who present evidence of superior scholarship in biology, chemistry, or biochemistry. The department recommends that students prepare themselves by taking general and organic chemistry, biochemistry, biology, physics, and calculus. It is anticipated that students who have not had these courses will take them, as appropriate, after their arrival. Departmental information may be obtained through the department's website (http://www.med.unc.edu/biochem/). Applicants should apply online at The Graduate School's admission website (http://gradschool.unc.edu/admissions/).

Research Interests

Faculty member's research interests are diverse and include research in the following areas: cell signaling and growth control, DNA repair and replication, membrane biophysics and function, molecular regulation including transcriptional control, nervous system development and function, and protein structure/function, including enzymology. Model systems used by the faculty range from bacteria to mammals; techniques span molecular biology to physical biochemistry. Please visit the department's website (http://www.med.unc.edu/biochem/) for more information.

Facilities

The departmental research facilities are centered in the Genetic Medicine Building, which is within walking distance of other medical school departments, research centers, and the departments of biology, chemistry, and physics. The building is equipped with instruments for molecular biological, biochemical, structural, and biophysical research. Animal care facilities are available to support the department's research endeavors. Research and training support is provided by several core facilities on campus.

Biochemistry and Biophysics, Doctoral Program (Ph.D.)

We offer a PhD with two customizable tracks in either Biochemistry or Biophysics, and we support our students with an array of resources and opportunities for professional growth. Our curriculum includes course requirements for all departmental students intended to help you with skills essential to careers in science. We additionally have course requirements specific to each track, both the Biochemistry & Molecular Biology track, as well as the Biophysics track, to emphasize basic skills and principles, and yet be sufficiently flexible to allow students to focus on different research areas.

Course Requirements

Biochemistry Track

Code	Title	Hours
Core Courses		
BIOC 701	Critical Analysis in Biochemistry	2
BIOC 710	Scientific Communication [1]	4
GNET 888	Responsible Conduct of Research	1
6 credit hours are required from the list below:		6
BIOC 631	Advanced Molecular Biology	
BIOC 650	Macromolecular Thermodynamics and Binding	
BIOC 651	Macromolecular Interactions and Forces	
BIOC 652	Macromolecular Dynamics	
BIOC 706	Biochemistry of Human Disease	
BIOC 740	Contemporary Topics in Cell Signaling: Phosphorylation Control	
BIOC 741	Contemporary Topics in Cell Signaling: GTPases	
BIOC 742	Contemporary Topics in Cell Signaling: Cell Cycle Control	
BIOC 744	Topics on Stem Cells and Development	
BIOC 745	Intercellular Signaling in Development and Disease	
Electives		**4**
Choose from any graduate-level course in a discipline supportive of biomedical research training, excluding the Biochemistry track and Departmental core courses.		
Thesis/Substitute or Dissertation		
BIOC 994	Doctoral Research and Dissertation [2]	3
Minimum Hours		**36**

[1] Take twice for a total of 4 credits. Students matriculating prior to fall 2021- BIOC 712 (2 credits) and BIOC 715 (2 credits) is equivalent to taking BIOC 710 twice.

[2] Students must take BIOC 994 twice for a minimum of 6 credit hours.

Biophysics Track

Code	Title	Hours
Core Courses		
BIOC 650	Macromolecular Thermodynamics and Binding	1
BIOC 651	Macromolecular Interactions and Forces	1
BIOC 652	Macromolecular Dynamics	1
BIOC 662	Macromolecular Interactions [3]	1
BIOC 704	Seminars in Biophysics	2
BIOC 710	Scientific Communication [1]	4
BIOC 888	Responsible Conduct of Research	1

3 modules are required from the list below:		3
BIOC 663A	Macromolecular NMR	
BIOC 663B	Macromolecular NMR Practice	
BIOC 664	Macromolecular Spectroscopy	
BIOC 665	Advanced NMR Spectroscopy Course	
BIOC 666	X Ray Crystallography of Macromolecules	
BIOC 667	Macromolecular Crystallographic Methods	
BIOC 669	Macromolecular Crystallographic Methods II	
BIOC 670	Structural Bioinformatics [3]	
BIOC 673	Proteomics, Protein Identification and Characterization by Mass Spectrometry	
BIOC 675	Fundamentals of Cryo-Electron Microscopy	
BCB 715	Mathematical and Computational Approaches to Modeling Signaling and Regulatory Pathways	
PHCO 750	Proteomics Methods and Applications	
BMME 590 or BMME 891	Special Topics in Biomedical Engineering Special Topics	
Electives		**3**
Choose from any graduate-level course in a discipline supportive of biomedical research training, excluding the Biophysics track and Departmental core courses. For students matriculating before 2023, a minimum of one elective credit hour is required. Alternative courses approved by DGS.		
Thesis/Substitute or Dissertation		
BIOC 994	Doctoral Research and Dissertation [2]	3
Minimum Hours		**36**

[1] Take twice for a total of 4 credits. Students matriculating prior to fall 2021- BIOC 712 (2 credits) and BIOC 715 (2 credits) is equivalent to taking BIOC 710 twice.

[2] Students must take BIOC 994 twice for a minimum of 6 credit hours.

[3] Students taking BIOC 662 as a core course may take BIOC 670 as one of their module courses and vice versa.

Milestones

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 27) for more information.

- Doctoral Committee
- Doctoral Oral Comprehensive Exam
- Doctoral Written Exam
- Prospectus Oral Exam
- Advanced to Candidacy
- Dissertation Defense
- Doctoral Dissertation Approved/Format Accepted
- Residence Credit
- Doctoral Exit Survey
- Doctoral Teaching Experience (Teaching assistant position)
- Doctoral Manuscript Submission (Published first-author or co-first authored manuscript prior to student's defense)
- Doctoral Intradepartmental Review (Annual Committee Meeting and individualized Development Plan submission)

Following the faculty member's name is a section number that students should use when registering for independent studies, reading, research, and thesis and dissertation courses with that particular professor.

Professors

Wolfgang Bergmeier, Adhesion Mechanisms of Platelets and Neutrophils
Brian Button, Mucus Biophysical Properties, Role of the Pericilliary Layer (PCL), and Mechanisms of Mucociliary Clearance in the Airways
Sharon Campbell (18), Structural Biology of Regulator Molecules in Cell Growth Control and Cell Adhesion
Charles W. Carter Jr. (19), Protein Crystallography, Structural Polymorphism and Function
Xian Chen (12), Systems Cancer Biology and Immunology, Cancer Therapeutic Response, Protein-Protein Interaction Networks
Jean Cook (150), Cell Cycle Control in Human Cells, Cell Proliferation Dynamics, Genome Stability Control, Molecular Biology, Quantitative Single Cell Analysis
Henrik Dohlman (17), Regulators of G Protein Signaling, Mechanisms of Drug Desensitization
Zbigniew Dominiki, Epigenetics, Histone, Structural Biology, Cryo-EM
Jack Griffith, Research Structure of Telomeres: How They Control Cell Aging and Death
Hengming Ke (50), X-ray Protein Crystallography and Biochemistry
Brian Kuhlman (72), Protein Design, Protein Therapeutics, and Molecular Modeling
Andrew Lee (71), Protein Dynamics, Allostery, NMR Spectroscopy, Click Chemistry, Protein Biophysics, Thymidylate Synthase
Patricia F. Maness (68), Specification of Neuronal Connectivity by Cell Recognition Molecules
William F. Marzluff (69), Biochemical & Genetic Analysis of Histone mRNA Processing & Histone Locus Body Formation in Drosophila
Gary Pielak (99), Protein Biophysics Emphasizing Studies in Living Cells
Dale Ramsden (108), Chromosome Breaks, DNA Repair, Enzymes that Repair DNA, Targeting DNA Repair for Cancer Therapy, RNA in the Chromosome
Matthew Redinbo (110), Drug Discovery and the Gut Microbiome
Aziz Sancar (105), DNA Repair Enzymology and Genomics, Mammalian Circadian Clock, Control of DNA Repair by the Circadian Clock
John Sondek (117), Rho GTPases, Dbl-Family RhoGEFs, Phospholipase C Isozymes, Drug Discovery
Brian Strahl (120), Histone Modifications and Epigenetics; Core Techniques: Yeast Genetics, Peptide Synthesis, Peptide Arrays, Mammalian Cell Culture
Ronald I. Swanstrom (123), HIV, Pathogenesis, Replication, NeuroAIDS, Latency, Resistance
Brenda Temple, Bioinformatics, Molecular Structural Analysis, Molecular Dynamics Simulations, Molecular Evolution, Molecular Modeling, Protein-Protein Interaction Prediction
Ashutosh Tripathy, Core Director Mac-in-Fac, Macromolecular Interactions
Cyrus Vaziri, Regulation of DNA Replication and S-Phase Checkpoints, and Post-Replication DNA Repair on Mammalian Cells
Yue Xiong (140), Molecular Mechanisms of Cell Cycle Control, Tumor Suppression and Development
Qi Zhang, Molecular Basis of RNA Function

Associate Professors

Jill Dowen, Three-Dimensional Genome Organization and Gene Expression in Stem Cells and Cancer Cells

Krzysztof Krajewski, Core Director of High-Throughput Peptide Synthesis, Peptide Chemistry and Synthesis, Peptide Arrays, Application of Peptides in Biochemical Assays, Histone PTMs
Silvia M Kreda, UNC Cystic Fibrosis Ctr./ Marsico Lung Inst.
Karin Leiderman, Mathematical Biology, Mathematical Modeling of Biochemical Systems, Especially Blood Coagulation, and Computational Biofluid Dynamics
Laura Lindsey-Bolts, DNA Damage, Checkpoint, Excision Repair
Pengda Liu, Cell Signaling; Cancer; mTOR; Akt; Post-Translational Modification; Protein-Protein Interaction
Rob McGinty, Mechanisms of Epigenetic Signaling
Saskia Neher, Lipoprotein Lipase, Heart Disease, Cryo-EM, Drug Discovery, Enzymology, ANGPTL4, Lipids, Structural Biology
Silvia Ramos, Biochemistry, Immunology, Gene Regulation, RNA

Assistant Professors

Rick Baker, Structural Biology, Membrane Trafficking, Cancer Biology, Cryo-EM Methods Development
Rebecca Berlow, Intrinsically Disordered Proteins, Protein-Protein Interactions, Protein Dynamics and Allostery, NMR Spectroscopy, Structural Biology, Biophysics
Joshua Boyer
Venkata Chirasani, R.L. Juliano Structural Bioinformatics Core Director
Gaorav Gupta, Genome Integrity Pathways and Breast Cancer Initiation, Progression, and Response to Therapy
Guochun Jiang, Transcription of HIV, Epigenetics, NF-KappaB Signaling, HIV-Associated Neurocognitive Disorders, HIV Cure Strategies
Robert Lee, Adhesion Mechanism of Platelets and Neutrophils, Thrombotic Disorders, Platelet Signaling, Platelet Transfusion, Anti-Platelet Therapy
Zhijun Li
Stuart Parnham, Director of UNC Biomolecular NMR Core
David Paul, Adhesion Mechanism of Platelets and Neutrophils, Thrombotic Disorders
Nikea Pittman, Instructor
Christopher Selby, Instructor, DNA Repair
Chrystal Starbird, Receptor Signaling, Protein-Protein Interactions, Structural Biology, Crystallography, Cryo-EM
Joshua Strauss, Director of Cryo-EM Core, Cellular and Structural Biology, Biological Electron Microscopy, Cryo-Electron Microscopy
Ling Xie, Biophysical Studies
Yanyan Yang, Circadian Rhythm, DNA Repair
Shuntai Zhou, HIV Center

Professors Emeriti

Michael Caplow
Stephen G. Chaney
Stephen Crews
Ann Erickson
Beverly Erred
Howard Fried
Barry R. Lentz
Gwendolyn B. Sancar
Thomas W. Traut
Richard Wolfenden

IMPORTANT: Not all courses are offered every year. Students should check with Director of Graduate Studies Wolfgang Bergmeier (bergmeie@email.unc.edu) or the student services administrator before they register for classes.

Advanced Undergraduate and Graduate-level Courses

BIOC 601. Enzyme Properties, Mechanisms, and Regulation. 3 Credits.
Focuses on enzyme architecture to illustrate how the shapes of enzymes are designed to optimize the catalytic step and become allosterically modified to regulate the rate of catalysis.

Rules & Requirements
Requisites: Prerequisite, CHEM 430; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

BIOC 603. MiBio Seminar. 2 Credits.
This class is designed to 1) enhance students' ability to present scientific material to their peers in a comprehensive, cohesive manner, 2) familiarize students with scientific concepts and technologies used in multiple disciplines, 3) expose students to cutting edge research, 4) prepare students to gain substantial meaning from seminars and to ask questions, and 5) enhance students' ability to evaluate scientific papers and seminars.

Rules & Requirements
Grading Status: Letter grade.
Same as: BIOL 603, CBPH 603, GNET 603.

BIOC 631. Advanced Molecular Biology. 4 Credits.
This course explores cutting edge research in molecular biology -- the investigation at molecule-scale of the mechanisms behind life. We briefly review core-principles in molecular biology, then investigate more recent research that extends or overturns these core principles.

Rules & Requirements
Requisites: Prerequisites, BIOL 202, or BIOL 220, or CHEM 430, and permission of the course director.
Grading Status: Letter grade.
Same as: GNET 631, BIOL 631, MCRO 631.

BIOC 632. Advanced Molecular Biology II. 3 Credits.
Required preparation for undergraduates, at least one undergraduate course in both biochemistry and genetics. The purpose of this course is to provide historical, basic, and current information about the flow and regulation of genetic information from DNA to RNA in a variety of biological systems. Three lecture hours a week.

Rules & Requirements
Grading Status: Letter grade.
Same as: GNET 632, BIOL 632, MCRO 632.

BIOC 649. Mathematics and Macromolecules. 1.5 Credits.
This course focuses on the application of mathematics to topics important in biophysics, such as thermodynamics and electrostatics. The unit is designed to help students perform more efficiently in BIOC 650, 651, and 652.

Rules & Requirements
Grading Status: Letter grade.

BIOC 650. Macromolecular Thermodynamics and Binding. 1 Credits.
Required preparation, two semesters of physical chemistry or permission of the instructor. Basic molecular models and their use in developing statistical descriptions of macromolecular function. Course intended primarily for graduate students.

Rules & Requirements
Requisites: Prerequisite, CHEM 430.
Grading Status: Letter grade.

BIOC 651. Macromolecular Interactions and Forces. 1 Credits.
Required preparation, two semesters of physical chemistry or permission of the instructor. Macromolecules as viewed with modern computational methods. Course intended primarily for graduate students.

Rules & Requirements
Requisites: Prerequisite, CHEM 430.
Grading Status: Letter grade.

BIOC 652. Macromolecular Dynamics. 1 Credits.
Required preparation, two semesters of physical chemistry or permission of the instructor. Stability of macromolecules and their complexes with other molecules. Course intended primarily for graduate students.

Rules & Requirements
Requisites: Prerequisite, CHEM 430.
Grading Status: Letter grade.

BIOC 655. Case Studies in Structural Molecular Biology. 3 Credits.
Principles of macromolecular structure and function with emphasis on proteins, molecular assemblies, enzyme mechanisms, and ATP enzymology.

Rules & Requirements
Requisites: Prerequisite, CHEM 430; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

BIOC 660. Introduction to Light Microscopy. 1 Credits.
Fundamentals of optics and light microscope design for the novice student.

Rules & Requirements
Requisites: Prerequisites, BIOC 650, 651, and 652 or permission of the course director.
Grading Status: Letter grade.

BIOC 662. Macromolecular Interactions. 1 Credits.
Theory and practice of biophysical methods used in the study of interactions between macromolecules and their ligands, including surface plasmon resonance, analytical ultracentrifugation, and calorimetry.

Rules & Requirements
Requisites: Prerequisites, BIOC 650, 651, and 652; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

BIOC 663A. Macromolecular NMR. 1 Credits.
Principles and practice of nuclear magnetic resonance spectroscopy: applications to biological macromolecule structure and dynamics in solution. Course intended primarily for graduate students.

Rules & Requirements
Requisites: Prerequisites, BIOC 650, 651, and 652; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

BIOC 663B. Macromolecular NMR Practice. 1 Credits.
Lab section for BIOC 663A. Course intended primarily for graduate students.

Rules & Requirements
Requisites: Prerequisite, BIOC 664; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

BIOC 664. Macromolecular Spectroscopy. 1 Credits.
Required preparation, two semesters of physical chemistry or permission of the instructor. Principles of UV, IR, Raman, fluorescence, and spin resonance spectroscopies; applications to the study of macromolecules and membranes. Course intended primarily for graduate students.

Rules & Requirements
Requisites: Prerequisite, CHEM 430.
Grading Status: Letter grade.

BIOC 665. Advanced NMR Spectroscopy Course. 1 Credits.
Advanced NMR Spectroscopy

Rules & Requirements
Grading Status: Pass/Fail.

BIOC 666. X Ray Crystallography of Macromolecules. 1 Credits.
Principles of protein crystallography, characterization of crystals, theory of diffraction, phasing of macromolecular crystals and structure refinement. Course intended primarily for graduate students.

Rules & Requirements
Requisites: Prerequisites, BIOC 650, 651, and 652; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

BIOC 667. Macromolecular Crystallographic Methods. 2 Credits.
A combined lecture/laboratory workshop for serious students of protein crystallography. Course intended primarily for graduate students.

Rules & Requirements
Requisites: Prerequisite, permission of the instructor.
Grading Status: Letter grade.
Same as: PHCO 667.

BIOC 668. Principles of and Simulation of Macromolecular Dynamics. 1 Credits.
A combined lecture/computer lab treatment of the principles of macromolecular dynamics and structure as approached using the tools of molecular dynamics simulations. Course intended primarily for graduate students.

Rules & Requirements
Requisites: Prerequisites, BIOC 650, 651, and 652; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

BIOC 669. Macromolecular Crystallographic Methods II. 1 Credits.
A combined lecture/laboratory workshop for serious students of protein crystallography or cryo-electron microscopy, addressing experimental model building, refinement, and analysis. Course intended primarily for graduate students. BIOC 667 is recommended for crystallography students. Permission of the instructor for students lacking the prerequisite.

Rules & Requirements
Requisites: Prerequisite, BIOC 666 or BIOC 675.
Grading Status: Letter grade.
Same as: PHCO 669.

BIOC 670. Structural Bioinformatics. 1 Credits.
A combined lecture/computer lab course introducing the methods and principles of biological data management as this relates to macromolecular sequence analysis. Course intended primarily for graduate students.

Rules & Requirements
Requisites: Prerequisites, BIOC 650, 651, and 652; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.
Same as: BCB 670.

BIOC 671. Summer Research in Biophysics. 3 Credits.
This class is a 10-week summer course in biophysics.

Rules & Requirements
Grading Status: Letter grade.

BIOC 673. Proteomics, Protein Identification and Characterization by Mass Spectrometry. 1 Credits.
A lecture module that introduces students to mass spectrometry-based proteomics in new biology discovery and precision medicine. Course intended primarily for graduate students.

Rules & Requirements
Requisites: Prerequisites, BIOC 650, 651, and 652, or one semester of physical chemistry; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

BIOC 674. Ion Channels Transporters. 1 Credits.
Ion Channels Transporters

Rules & Requirements
Grading Status: Pass/Fail.

BIOC 675. Fundamentals of Cryo-Electron Microscopy. 1 Credits.
This course will provide a survey of biological applications of cryo-EM, with a particular emphasis on single particle techniques used to determine high-resolution structures of macromolecules. Students will have a basic understanding of cryo-EM theory, the methodology for creating samples and collecting data, and strategies for reconstructing 3D models of macromolecules. Course previously offered as BIOC 708.

Rules & Requirements
Grading Status: Letter grade.

BIOC 678. Electrical Signals from Macromolecular Assemblages. 2 Credits.
An intensive, six-hour per week introduction to the fundamentals of ion channel biophysics, including laboratory sessions to demonstrate principles and methods. Course intended primarily for graduate students.

Rules & Requirements
Requisites: Prerequisites, BIOC 650, 651, and 652; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

BIOC 690. Special Topics in Biochemistry. 1-3 Credits.
Special topics course. Content and topics will vary each semester.

Rules & Requirements
Grading Status: Letter grade.

Graduate-level Courses

The following seminar courses are designed for students majoring or minoring in biochemistry who wish to further their knowledge in particular areas. Unless otherwise stated, two semesters of biochemistry are prerequisites for seminar courses. Most of these courses are given in alternate years by interested staff members. Unless otherwise stated, these seminars may not be repeated for credit. Seminar courses provide teaching experience, which is required for a graduate degree in biochemistry and biophysics. In addition, the courses provide experience in giving a critical review of the current literature.

BIOC 700. Origins and Early Evolution of Life. 2 Credits.
Critical reading and discussion in the origins of, metabolism, inheritance, and natural selection, and biological complexity

Rules & Requirements
Grading Status: Letter grade.

BIOC 701. Critical Analysis in Biochemistry. 2 Credits.
Permission of the instructor. Critical analysis of research papers from departmental seminar series, student presentations, meet seminar speakers, learn about departmental research and current techniques.

Rules & Requirements
Grading Status: Letter grade.

BIOC 702. Advanced Topics in Chromatin and Epigenetics. 2 Credits.
Each class covers a unique topic in epigenetics and provide a historical view of the major discoveries that shaped the field with discussions and examinations of current literature.

Rules & Requirements
Grading Status: Letter grade.

BIOC 703. Seminars in Chromatin and Epigenetics. 0.5 Credits.
Designed to expose students to the broad epigenetic research interests of our large epigenetics focused faculty and expose students to a broad range of epigenetics research techniques.

Rules & Requirements
Repeat Rules: May be repeated for credit. 1 total credits. 2 total completions.
Grading Status: Letter grade.
Same as: PHRS 712.

BIOC 704. Seminars in Biophysics. 2 Credits.
Permission of the instructor. Students present seminars coordinated with the visiting lecturer series of the Program in Molecular and Cellular Biophysics.

Rules & Requirements
Grading Status: Letter grade.
Same as: BIOL 704.

BIOC 705. Advanced Biophysics Laboratory. 2-4 Credits.
Permission of the program director. Designed to introduce students in the Molecular and Cellular Biophysics Program to research methods. Minor investigative projects are conducted with advice and guidance of the staff. May be repeated for credit.

Rules & Requirements
Grading Status: Letter grade.

BIOC 706. Biochemistry of Human Disease. 3 Credits.
Required preparation, biochemistry. Permission of the instructor. Graduate level, involves lectures, critical readings, and discussions of biochemical aspects of human diseases. Core biochemical principles and cutting edge approaches are considered in the following: amyotrophic lateral sclerosis, Alzheimer's, cancer, cystic fibrosis, HIV, thrombosis and heart disease, schizophrenia, V(D)J recombination, and neglected diseases.

Rules & Requirements
Grading Status: Letter grade.

BIOC 707. Cellular Metabolism and Human Disease. 2 Credits.
Open to 1st year BBSP or advanced graduate students with background in basic cellular biochemistry. Permission of the instructor. Addresses the role of cellular metabolism in human disease, including the roles and regulation of biochemical pathways. Recent advances will be emphasized. Diseases addressed will include cancer and diabetes.

Rules & Requirements
Grading Status: Letter grade.

BIOC 710. Scientific Communication. 2 Credits.
Scientific communication is designed to help graduate students improve their scientific communication skills through practice and feedback from instructors and peers. The course will cover both written and oral communication. Both topics are covered in recognition of the commonalities in clarity, organization, and delivery shared by successful scientific communication. Course instructors will provide direction on effective organization and delivery of research products, specifically presentations and grant proposals.

Rules & Requirements
Repeat Rules: May be repeated for credit. 4 total credits. 2 total completions.
Grading Status: Letter grade.

BIOC 711. Research Concepts in Biochemistry. 2 Credits.
Master's candidates in biochemistry and biophysics only. A series of lectures and exercises on formulating a research plan to attack a specific scientific problem, and on presenting the research plan in the form of a grant proposal.

Rules & Requirements
Grading Status: Letter grade.

BIOC 712. Scientific Writing. 3 Credits.
Doctoral candidates in biochemistry and biophysics only. A course of lectures and workshops on the principles of clear scientific exposition with emphasis on the design and preparation of research grants.

Rules & Requirements
Grading Status: Letter grade.

BIOC 715. Scientific Presentation. 1 Credits.
Senior graduate students present original research results as a formal seminar. Feedback on presentation effectiveness and style will be provided by faculty instructors and classmates.

Rules & Requirements
Grading Status: Letter grade.

BIOC 716. Biophysics Colloquium. 0.5 Credits.
The biophysics colloquium provides a variety of professional training opportunities to students in the Molecular and Cellular Biophysics program. Training and learning activities include career development workshops, alumni panels, research presentations from faculty, discussion on topics in rigor and reproducibility, student conference reports and student practice talks in preparation for oral exams.

Rules & Requirements
Repeat Rules: May be repeated for credit. 2 total credits. 4 total completions.
Grading Status: Letter grade.

BIOC 720. The Biochemistry of HIV Replication, Inhibitors, and Drug Resistance. 2 Credits.
Seminar/discussion/literature course on structure-function of HIV proteins. Discussion of polymerases, proteases, protein-protein interactions, protein degradation pathways, protein-nucleic acid recognition, transcriptional control, RNA splicing and transport, and mechanisms of drug resistance.

Rules & Requirements
Grading Status: Letter grade.

BIOC 721. Cell Regulation by Ubiquitination. 2 Credits.
Required preparation, two semesters of biochemistry. Lecture and literature-based discussion course on ubiquitin-mediated regulation of hormone receptor signaling, trafficking, and degradation.

Rules & Requirements
Grading Status: Letter grade.

BIOC 722A. Cellular and Molecular Neurobiology: Introduction and Electrical Signaling. 2 Credits.
Permission of the department. This course explores the experimental and theoretical function of the nervous system. Typically, the first hour is fundamental material presentation and the second hour may be a presentation led by the students. Topics covered include: cellular diversity in the CNS, gross brain anatomy, human and rodent brain imaging, neuromolecular genetics, behavioral methods, membrane potentials/resistance/capacitance, ion channel structure, electrophysiology and propagation of electrical signals in neurons. Basic undergraduate biology, chemistry, physics and intro calculus is assumed.

Rules & Requirements
Grading Status: Letter grade.
Same as: NBIO 722A, PHCO 722A.

BIOC 722B. Cellular and Molecular Neurobiology: Postsynaptic Mechanisms-Receptors. 2 Credits.
Permission of the department. Consideration of membrane receptor molecules activated by neurotransmitters in the nervous system with emphasis on ligand binding behavior and molecular and functional properties of different classes of receptors. Course meets for four weeks with six lecture hours per week.

Rules & Requirements
Grading Status: Letter grade.
Same as: NBIO 722B, PHCO 722B.

BIOC 725. Signal Transduction. 2 Credits.
Seminar/discussion course on molecular aspects of the receptors, G-proteins, effector proteins, kinases, and phosphatases that mediate hormone, neurotransmitter, growth factor, and sensory signaling.

Rules & Requirements
Grading Status: Letter grade.
Same as: PHCO 725.

BIOC 738. Nanomedicine. 3 Credits.
This course offers an introduction to the interdisciplinary field of nanomedicine for students with a physical, chemical, or biological sciences background. This course will emphasize emerging nanotechnologies and biomedical applications including nanomaterials, nanoengineering, nanotechnology-based drug delivery systems, nano-based imaging and diagnostic systems, nanotoxicology, and translating nanomedicines into clinical investigation.

Rules & Requirements
Grading Status: Letter grade.

BIOC 740. Contemporary Topics in Cell Signaling: Phosphorylation Control. 1 Credits.
Required preparation, coursework in biochemistry, pharmacology and/or cell & molecular biology. Permission of the instructor. This graduate-level course is an in-depth analysis of how protein kinases and protein phosphorylation regulates key aspects of cell signaling. This class is one of the "Contemporary Topics in Cell Signaling" modules.

Rules & Requirements
Grading Status: Letter grade.
Same as: PHCO 740.

BIOC 741. Contemporary Topics in Cell Signaling: GTPases. 1 Credits.
Required preparation, coursework in biochemistry, pharmacology, and/or cell & molecular biology. Permission of the instructor. This graduate-level course conveys principles of signal transduction controlled by GTPases and emphasizes in-depth discussion of current literature and unanswered questions. This class is one of the "Contemporary Topics in Cell Signaling" modules.

Rules & Requirements
Grading Status: Letter grade.
Same as: PHCO 741.

BIOC 742. Contemporary Topics in Cell Signaling: Cell Cycle Control. 1 Credits.
Permission of the instructor. Required preparation, coursework in biochemistry and/or cell & molecular biology. This graduate-level course conveys principles of eukaryotic cell proliferation control emphasizing in-depth discussion of current literature and unanswered questions. This class is one of the Contemporary Topics in Cell Signaling modules.

Rules & Requirements
Grading Status: Letter grade.
Same as: PHCO 742, PHCO 742.

BIOC 743. Contemporary Topics in Cell Signaling: Signaling Networks. 1 Credits.
Acquire the scientific vocabulary of the signaling network field. Master key concepts from mathematical characterization of signaling circuits. Develop and apply critical analysis skills.

Rules & Requirements
Grading Status: Letter grade.
Same as: PHCO 743.

BIOC 744. Topics on Stem Cells and Development. 2 Credits.
Required preparation, coursework in genetics, cell biology, and molecular biology. Permission of the instructor. Course addresses key issues in developmental biology focused on the role of stem cells and emphasizes in-depth discussion of current literature and unanswered questions. One of the Contemporary Topics in Cell Signaling modules.

Rules & Requirements
Grading Status: Letter grade.
Same as: PHCO 744.

BIOC 745. Intercellular Signaling in Development and Disease. 1 Credits.
This graduate-level course concentrates on up-to-date views of intercellular signal processing, with emphasis on signal transduction mechanisms as they relate to cellular/physiological responses in both normal development and disease. Signaling mechanisms that will be discussed include autocrine, paracrine, juxtacrine signaling and cell-matrix interactions.

Rules & Requirements
Grading Status: Letter grade.
Same as: PHCO 745.

BIOC 749. Biochemical Toxicology. 3 Credits.
Required preparation, one course in biochemistry. Biochemical actions of toxicants and assessment of cellular damage by biochemical measurements. Three lecture hours per week.

Rules & Requirements
Requisites: Prerequisite, CHEM 430; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.
Same as: ENVR 749, TOXC 749.

BIOC 750. MOLECULAR DYNAMICS. 1 Credits.
The course is designed to introduce the most important concepts, methods, and software programs used in Molecular Dynamics (MD) simulations. Topics include, but are not limited to, computational models, force fields, simulation algorithms, enhanced sampling, protein folding, ligand binding, protein-protein/nucleic acid interactions, drug design, QM/MM, photobiuology, and machine learning. The goal is to help the students to rapidly learn MD as a powerful computational technique and use it to solve relevant problems in their own research.

Rules & Requirements
Requisites: Prerequisite, BCB or BIOC 670.
Grading Status: Letter grade.
Same as: BCB 750.

BIOC 802. Seminar in the Phase Problem in X-Ray Crystallography. 2 Credits.
Permission of the instructor. Image formation is treated from a quite general point of view, drawing from Fourier transform methods used in X-ray crystallography. Isomorphous replacement, multiple wavelength anomalous scattering, and Bayesian direct methods are covered. One two-hour seminar a week.

Rules & Requirements
Grading Status: Letter grade.

BIOC 803. Seminar on Cell Signaling. 2 Credits.
Required preparation, two semesters of biochemistry. Signal transduction in embryonic development.

Rules & Requirements
Grading Status: Letter grade.

BIOC 804. Seminar in DNA-Protein Interactions. 2 Credits.
Required preparation, two semesters of biochemistry. Review of current literature on structural, thermodynamic, and kinetic aspects of binding to DNA of proteins involved in replication, regulation, recombination, and repair.

Rules & Requirements
Grading Status: Letter grade.

BIOC 805. Molecular Modeling. 3 Credits.
Introduction to computer-assisted molecular design, techniques, and theory with an emphasis on the practical use of molecular mechanics and quantum mechanics programs.

Rules & Requirements
Requisites: Prerequisites, MATH 231, 232, and CHEM 481.
Grading Status: Letter grade.
Same as: CBMC 805.

BIOC 806. Macromolecular Modeling. 3 Credits.
Introduction to modeling and simulation techniques for biological macromolecules. Two lecture and three to four laboratory hours per week.

Rules & Requirements
Requisites: Prerequisites, MATH 231, 232, and CHEM 430.
Grading Status: Letter grade.
Same as: MEDC 806.

BIOC 807. Seminar in Cellular Responses to DNA Damage. 2 Credits.
Required preparation, graduate-level courses (one each) in molecular biology and biochemistry. A seminar course on the enzymology of DNA repair and damage tolerance and the regulation of genes involved in these processes. Both classic and recent literature are discussed.

Rules & Requirements
Grading Status: Letter grade.

BIOC 808. From Force to Phenotype: How Biological Structures Respond to Physical Force. 2 Credits.
Literature/discussion course on integrating physics with biology, and the challenge of merging structural dynamics with living cell phenotypes. Forces and biological outcomes will be considered through specific examples.

Rules & Requirements
Grading Status: Letter grade.

BIOC 888. Responsible Conduct of Research. 1 Credits.
Classroom-based graduate level course covering critical topics for ethical and responsible conduct of experimental research. There are both classroom lecture, workshop-type discussion components, in addition to assigned outside of class readings. Case studies and hypothetical situations involving the most likely scenarios confronting graduate students will be covered, these topics include: mentor and mentee relationships, publication authorship, collaboration, peer review, conflicts of interest, intellectual property, plagiarism, data acquisition and data processing. Restricted to students in good standing as a graduate student at UNC; In the unlikely event that classroom space is limited, preference will be given to graduate students who have previously received external federal funding sources and may require a refresher course in RCR.

Rules & Requirements
Repeat Rules: May be repeated for credit. 2 total credits. 1 total completions.
Grading Status: Letter grade.
Same as: BCB 888.

BIOC 901. Research in Biochemistry. 3-9 Credits.
Permission of the department.

Rules & Requirements
Grading Status: Letter grade.

BIOC 902. Research in Biochemistry. 1-15 Credits.
Permission of the department. Six or more hours a week throughout both semesters.

Rules & Requirements
Repeat Rules: May be repeated for credit. 15 total credits. 15 total completions.
Grading Status: Letter grade.

BIOC 992. Master's (Non-Thesis). 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

BIOC 993. Master's Research and Thesis. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

BIOC 994. Doctoral Research and Dissertation. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

Contact Information

Department of Biochemistry and Biophysics
Visit Program Website (http://www.med.unc.edu/biochem/)

Chair
Jean Cook

CURRICULUM IN BIOINFORMATICS AND COMPUTATIONAL BIOLOGY (GRAD)

Modern biology, in this postgenome age, is being greatly enriched by an infusion of ideas from a variety of computational fields, including computer science, information science, mathematics, operations research, and statistics. In turn, biological problems are motivating innovations in these computational sciences. There is a high demand for scientists who can bridge these disciplines. The goal of the Curriculum in Bioinformatics and Computational Biology (BCB) is to train such scientists through a rigorous and balanced curriculum that transcends traditional departmental boundaries.

Incoming students are expected to matriculate from a broad range of disciplines; thus, it is important to ensure that all students have a common foundation on which to build their BCB training. The first year is dedicated to establishing this foundation and training all students with a common set of core BCB courses. BCB students will also participate in three laboratory research rotations their first year and ultimately join a laboratory at the end of those rotations. Research work is done in the laboratory facilities of the individual faculty member and is supported primarily by faculty research grants.

Curriculum faculty have appointments in 18 departments in the School of Medicine, School of Dentistry, Gillings School of Global Public Health, Eshelman School of Pharmacy, School of Information and Library Science, and the College of Arts and Sciences. This provides students with a broad range of research opportunities.

Requirements for Admission for Graduate Work

Ideal BCB candidates should have an undergraduate degree in a biological, physical, mathematical, or computational science. They must apply to the program through a unified application program known as the Biological and Biomedical Sciences Program (BBSP). Students apply for graduate study in the biological or biomedical sciences at UNC–Chapel Hill. Students interested in any of the BBSP research areas apply to BBSP, and those whose application portfolio places them highest on the admission list are asked to visit Chapel Hill for interviews. Students who are ultimately admitted to UNC–Chapel Hill make no formal commitment to a Ph.D. program. After completing their first year of study students leave BBSP, join a thesis laboratory, and matriculate into one of 14 participating Ph.D. programs. During their first year BBSP students are part of small, interest-based groups led by several faculty members. These groups meet frequently and provide a research community for students until they join a degree-granting program. Students are encouraged to apply as early as possible, preferably before December 1. (Applicants seeking a master's degree are not considered for admission.)

Financial Aid

Stipends for predoctoral students are available from an NIH predoctoral training grant and from the University. Tuition, student fees, and graduate student health insurance are also covered by the training grant and the University.

Bioinformatics and Computational Biology, Master's Degree (M.S.)

Modern biology is being greatly enriched by an infusion of ideas from computational and mathematical fields, including computer science, information science, mathematics, operations research and statistics. In turn, biological problems are motivating innovations in these computational sciences. There is a high demand for scientists who can bridge these disciplines. The goal of the Curriculum in Bioinformatics and Computational Biology is to train such scientists through a rigorous and balanced curriculum that transcends traditional departmental boundaries.

Course Requirements

Code	Title	Hours
Core Courses		
BCB 710	Bioinformatics Colloquium [1]	1
BCB 715	Mathematical and Computational Approaches to Modeling Signaling and Regulatory Pathways	1
BCB 717	Structural Bioinformatics	1
BCB 720	Introduction to Statistical Modeling	3
BCB 722	Population Genetics	1
BCB 724	Data Communication	1
BCB 899	Special Topics in Bioinformatics and Computational Biology [2]	1
Thesis/Substitute or Dissertation		
BCB 992	Master's (Non-Thesis)	3
Minimum Hours		

[1] This 1-credit course must be taken four times.
[2] This 1-credit course must be taken twice.

Milestones

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 27) for more information.

- Master's Committee
- Master's Written Exam/Approved Exam Substitute
- Thesis Substitute
- Thesis/Substitute Defense
- Approved Master's Thesis
- Residence Credit
- Master's Exit Survey

Bioinformatics and Computational Biology, Doctoral Degree (Ph.D.)

Modern biology is being greatly enriched by an infusion of ideas from computational and mathematical fields, including computer science, information science, mathematics, operations research and statistics. In turn, biological problems are motivating innovations in these computational sciences. There is a high demand for scientists who can bridge these disciplines. The goal of the Curriculum in Bioinformatics and Computational Biology is to train such scientists through a rigorous and balanced curriculum that transcends traditional departmental boundaries.

Course Requirements

Code	Title	Hours
Core Courses		
BCB 710	Bioinformatics Colloquium [1]	4
BCB 715	Mathematical and Computational Approaches to Modeling Signaling and Regulatory Pathways	1
BCB 717	Structural Bioinformatics	1
BCB 720	Introduction to Statistical Modeling	3
BCB 722	Population Genetics	1
BCB 724	Data Communication	1
BCB 899	Special Topics in Bioinformatics and Computational Biology [1]	1
Electives		
9 of 12 hours should be computational unless DGS or ADGS approves otherwise.		12
Thesis/Substitute or Dissertation		
BCB 994	Doctoral Research and Dissertation	6
Minimum Hours		**36**

[1] This 1-credit course must be taken twice in its spring offering and twice in its fall offering.

Milestones

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 27) for more information.

- Doctoral Committee
- Doctoral Oral Comprehensive Exam
- Doctoral Written Exam
- Prospectus Oral Exam
- Dissertation Defense
- Doctoral Dissertation Approved/Format Accepted
- Residence Credit
- Doctoral Exit Survey
- Doctoral Teaching Experience
- Doctoral Manuscript Submission
- Doctoral Intradepartmental Review
- Doctoral Research Presentation

Professors

Shawn Ahmed, Genetics and Biology **Jim Bear,** Cell Biology and Physiology **Kerry Bloom,** Biology **Charles Carter,** Biochemistry and Biophysics **Ian Davis,** Genetics and Pediatrics **Dirk Dittmer,** Microbiology and Immunology **Henrik Dohlman,** Pharmacology; Biochemistry and Biophysics **Timothy Elston,** Pharmacology and Computational Medicine **Gregory Forest,** Math **Flavio Frohlich,** Psychiatry, Cell Biology and Physiology, Biomedical Engineering, Neurology **Terry Furey,** Genetics and Biology **Shawn Gomez,** Biomedical Engineering **Boyce Griffith,** Mathematics; Biomedical Engineering **Melissa Haendel,** Genetics and Pediatrics **Klaus Hahn,** Pharmacology and Medicinal Chemistry **Corbin Jones,** Biology and Genetics **Brian Kuhlman,** Biochemistry and Biophysics **Alain Laederach,** Biology **Sam Lai,** School of Pharmacy **Yun Li,** Genetics and Biostatistics **Yufeng Liu,** Statistics & Operations Research, Biostatistics, and Genetics **Amy Shaub Maddox,** Biology **Terry Magnuson,** Genetics **Steve Marron,** Statistics and Operations Research **William Marzluff,** Biochemistry and Biophysics **Karen Mohlke,** Genetics **Fernando Pardo-Manuel de Villena,** Genetics **Charles Perou,** Genetics and Pathology and Laboratory Medicine; Computational Medicine **Jan Prins,** Computer Science

Jeremy Purvis, Genetics; Computational Medicine

Jack Snoeyink, Computer Science **John Sondek,** Pharmacology, and Biochemistry and Biophysics **Brian Strahl,** Biochemistry and Biophysics **Alex Tropsha,** Chemical Biology and Medicinal Chemistry **William Valdar,** Genetics

Pew-Thian Yap, Radiology

Mark Zylka, Neuroscience Center; Cell Biology and Physiology

Associate Professors

J. Mauro Calabrese, Pharmacology; Lineberger Comprehensive Cancer Center
Jill Dowen, Biochemistry and Biophysics; Biology
Martin Ferris, Genetics
Erin Heinzen, School of Pharmacy and Genetics
Bradley Hemminger, School of Information and Library Science

Katherine Hoadley, Genetics; Lineberger Cancer Center

Samir Kelada, Genetics
Daphne Klotsa, Applied Physical Sciences
Karin Leiderman, Mathematics
Sarah Linnstaedt, Anesthesiology
Mike Love, Biostatistics and Genetics
Paul Maddox, Biology
Adrian Marchetti, Marine Sciences
Daniel McKay, Biology and Genetics

Yinglong Miao, Pharmacology and Computational Medicine

Konstantin Popov, Biochemistry and Biophysics

Daniel Schrider, Genetics

Shehzad Sheikh, Genetics and Medicine
Jason Stein, Genetics; Neuroscience Center
Benjamin Vincent, Medicine, Division of Hematology/Oncology
Todd Vision, Biology; School of Information and Library Science

Jeremy Wang, Pathology Lab Medicine & Genetics

Di Wu, Periodontics, School of Dentistry; Biostatistics

Anthony Zannas, Psychiatry and Genetics

Assistant Professors

Tessa Andermann, Medicine **Elizabeth Brunk,** Pharmacology and Chemistry **Iain Carmichael,** Pathology and Data Science **Daniel Dominguez,** Pharmacology **Parul Johri,** Biology and Genetics **Wesley Legant,** Biomedical Engineering and Pharmacology **Xihao Li,** Biostatistics & Genetics

Qingyun Liu, Genetics

Yusha Liu, Biostatistics

Brian Miller, Medicine - Oncology **Ehssan Nazockdast,** Applied Physical Science **Adam Palmer,** Pharmacology **Doug Phanstiel,** Cell Biology and Physiology

Elisa Pieri, Chemistry

Jesse Raab, Genetics **Laura Raffield,** Genetics **Christoph Rau,** Genetics; Computational Medicine **Alexander Rubinsteyn,** Genetics

Jonathan Schisler, Pharmacology

Natalie Stanley, Computer Science **Hyejung Won,** Genetics

Daiwei (David) Zhang, Biostatistics and Genetics

Tarek Zikry, School of Data Science and Society

BCB

Graduate-level Courses

BCB 701. Genome Sciences Seminar Series. 1 Credits.
Open to bioinformatics students only. Diverse but current topics in all aspects of bioinformatics. Relates new techniques and current research of notables in the field of bioinformatics and computational biology.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

BCB 702. Genome Sciences Seminar Series. 1 Credits.
Open to bioinformatics students only. Diverse but current topics in all aspects of bioinformatics. Relates new techniques and current research of notables in the field of bioinformatics.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

BCB 710. Bioinformatics Colloquium. 1 Credits.
The goal of this course is to expose students to the research interests of BCB faculty and to provide an opportunity for students to present their own work and receive input from their peers and faculty.

Rules & Requirements
Grading Status: Letter grade.

BCB 712. Databases, Metadata, Ontologies, and Digital Libraries for Biological Sciences. 1 Credits.
Course introduces the basic information-science methods for storage and retrieval of biological information.

Rules & Requirements
Grading Status: Letter grade.

BCB 715. Mathematical and Computational Approaches to Modeling Signaling and Regulatory Pathways. 1 Credits.
The course provides an introduction to the basic mathematical techniques used to develop and analyze models of biochemical networks. Both deterministic and stochastic models are discussed.

Rules & Requirements
Grading Status: Letter grade.

BCB 716. Sequence Analysis. 1 Credits.
This module is designed to introduce students to concepts and methods in the comparative analysis of nucleic acid sequences using state of the art sequencing platforms. Course topics will include sequence alignment, genome assembly, and computational details of contemporary protocols for DNA and RNA sequencing.

Rules & Requirements
Grading Status: Letter grade.

BCB 717. Structural Bioinformatics. 1 Credits.
Course introduces methods and techniques for protein modeling.

Rules & Requirements
Grading Status: Letter grade.

BCB 718. Computational Modeling Laboratory. 1 Credits.
This course provides a practical introduction to computational modeling of cellular systems. We will focus on how to choose and implement different modeling techniques-deterministic, stochastic, and inferred-to describe the same biological phenomenon. Although no formal mathematical or computational background is required, the course will involve a fair amount of programming in MATLAB.

Rules & Requirements
Grading Status: Letter grade.

BCB 720. Introduction to Statistical Modeling. 3 Credits.
This course introduces foundational statistical concepts and models that motivate a wide range of analytic methods in bioinformatics, statistical genetics, statistical genomics, and related fields. Students are expected to know single-variable calculus, be familiar with matrix algebra, and have some programming experience.

Rules & Requirements
Grading Status: Letter grade.

BCB 722. Population Genetics. 1 Credits.
This short course will cover methods of inferring/estimating natural selection, including the Dn/Ds ratio, the McDonald-Kreitman test, and the Poisson Random Field model. The course will feature discussions of high-profile publications that describe the application of these methods to yield insights into the forces that have shaped organismal evolution.

Rules & Requirements
Grading Status: Letter grade.
Same as: GNET 722.

BCB 723. Topics in Statistical Genetics and Genomics. 1 Credits.
This module introduces selected concepts and techniques in statistical genetics and genomics.

Rules & Requirements
Grading Status: Letter grade.

BCB 724. Data Communication. 1 Credits.
This course is designed to prepare students to be effective communicators of the results of analyses of biological and biomedical data. Students will learn methods for data assessment and exploratory data analysis (EDA), and how to visualize, write, and talk about data in contexts such as emails, reports, lab meetings, publications, and conference presentations. No technical or statistical background required for enrollment.

Rules & Requirements
Grading Status: Letter grade.

BCB 725. Introduction to Statistical Genetics. 3 Credits.
Covers statistical methods for the analysis of family and population-based genetic data. Topics include classical linkage analysis, population-based and family-based association analysis, haplotype analysis, genome-wide association studies, basic principles in population genetics, imputation-based analysis, pathway-based analysis, admixture mapping, analysis of copy number variations, and analysis of massively parallel sequencing data.

Rules & Requirements
Grading Status: Letter grade.

BCB 730. Fundamentals of Quantitative Image Analysis for Light Microscopy. 1 Credits.
This course is a practical introduction to quantitative analysis of light microscopy images. During the class students will follow tutorials that will guide them through common tasks in analysis of biological images. They will be introduced to basic concepts of image processing like image registration, filtering, object detection etc.

Rules & Requirements
Grading Status: Letter grade.
Same as: CBPH 730, GNET 730.

BCB 731. Critical Readings in Biomedical Statistics and Machine Learning. 2 Credits.
A survey of recurring statistical errors and pitfalls which are sometimes used to exaggerate the weight of evidence for novel biological claims or inflate the estimated accuracy of proposed predictive biomedical models. This course focuses on misapplied analyses of data sources where a small number of biological samples are quantified into very high dimensional feature spaces, such as in genomics, proteomics, and biomedical imaging.

Rules & Requirements
Requisites: Prerequisites, Students should be familiar with both predictive modeling and inferential data analysis (BCB 720 or, eg, BIOS 661, COMP 755, or STOR 665) as well as general awareness of high throughput biological data; Permission of the instructor is required for students lacking the prerequisites.
Grading Status: Letter grade.

BCB 750. MOLECULAR DYNAMICS. 1 Credits.
The course is designed to introduce the most important concepts, methods, and software programs used in Molecular Dynamics (MD) simulations. Topics include, but are not limited to, computational models, force fields, simulation algorithms, enhanced sampling, protein folding, ligand binding, protein-protein/nucleic acid interactions, drug design, QM/MM, photobiuology, and machine learning. The goal is to help the students to rapidly learn MD as a powerful computational technique and use it to solve relevant problems in their own research.

Rules & Requirements
Requisites: Prerequisite, BCB or BIOC 670.
Grading Status: Letter grade.
Same as: BIOC 750.

BCB 784. Introduction to Computational Biology. 3 Credits.
Molecular biology, sequence alignment, sequence motifs identification by Monte Carlo Bayesian approaches, dynamic programming, hidden Markov models, computational algorithms, statistical software, high-throughput sequencing data and its application in computational biology.

Rules & Requirements
Requisites: Prerequisites, BIOS 661 and 663; Permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.
Same as: BIOS 784.

BCB 785. Statistical Methods for Gene Expression Analysis. 3 Credits.
Clustering algorithms, classification techniques, statistical techniques for analyzing multivariate data, analysis of high dimensional data, parametric and semiparametric models for DNA microarray data, measurement error models, Bayesian methods, statistical software, sample size determination in microarray studies, applications to cancer.

Rules & Requirements
Requisites: Prerequisites, BIOS 661 or 673, and 663; Permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.
Same as: BIOS 785.

BCB 850. Training in Bioinformatics and Computational Biology Teaching. 3 Credits.
Principles of bioinformatic and computational biology pedagogy. Students are responsible for assistance in teaching BCB and work under the supervision of the faculty, with whom they have regular discussion of methods, content, and evaluation of performance.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

BCB 870. Writing Fellowship Proposals. 1 Credits.
Provides practical experience to predoctoral students in writing fellowship proposals, using the NIH F31 as a template. Students will have weekly writing assignments, with feedback given by students and faculty. Open to 2nd and 3rd year students in the Curriculum or by permission of the instructor.

Rules & Requirements
Grading Status: Letter grade.
Same as: GNET 870.

BCB 888. Responsible Conduct of Research. 1 Credits.
Classroom-based graduate level course covering critical topics for ethical and responsible conduct of experimental research. There are both classroom lecture, workshop-type discussion components, in addition to assigned outside of class readings. Case studies and hypothetical situations involving the most likely scenarios confronting graduate students will be covered, these topics include: mentor and mentee relationships, publication authorship, collaboration, peer review, conflicts of interest, intellectual property, plagiarism, data acquisition and data processing. Restricted to students in good standing as a graduate student at UNC; In the unlikely event that classroom space is limited, preference will be given to graduate students who have previously received external federal funding sources and may require a refresher course in RCR.

Rules & Requirements
Repeat Rules: May be repeated for credit. 2 total credits. 1 total completions.
Grading Status: Letter grade.
Same as: BIOC 888.

BCB 891. Special Topics. 1-3 Credits.
Advance topics in current research in statistics and operations research.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.
Same as: MATH 891, GNET 891.

BCB 899. Special Topics in Bioinformatics and Computational Biology. 1-6 Credits.
Special topics course in the Bioinformatics and Computational Biology Curriculum. Topics will vary.

Rules & Requirements
Repeat Rules: May be repeated for credit. 9 total credits. 9 total completions.
Grading Status: Letter grade.

BCB 905. Research in Bioinformatics and Computational Biology. 1-8 Credits.
Credit awarded to students for research in bioinformatics and computational biology.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

BCB 990. Research Practicum/Internship in Bioinformatics and Computational Biology. 1-9 Credits.
The Research Practicum/Internship in Bioinformatics and Computational Biology (BCB) is a planned, individualized, mentored, evaluated, experiential learning opportunity that serves as a bridge between academic training and post-training practice. The internship/practicum provides special opportunities for learning that are different from, supplementary to, and supportive of the academic components of the PhD program.

Rules & Requirements
Requisites: Prerequisite, None; Corequisite, None; Pre- or corequisite, None.
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 9 total credits. 9 total completions.
Grading Status: Letter grade.

BCB 992. Master's (Non-Thesis). 3 Credits.
Focuses on the development of a master's project or a major paper other than a thesis.

Rules & Requirements
Repeat Rules: May be repeated for credit.

BCB 993. Master's Research and Thesis. 3 Credits.
Students are not accepted for master's program.

Rules & Requirements
Repeat Rules: May be repeated for credit.

BCB 994. Doctoral Research and Dissertation. 3 Credits.
Credit for work done towards doctorate.

Rules & Requirements
Repeat Rules: May be repeated for credit.

Contact Information

Curriculum in Bioinformatics and Computational Biology
Visit Program Website (http://bcb.unc.edu)

Director
William Valdar
william.valdar@unc.edu

Associate Director
Michael Love
milove@email.unc.edu

Student Services Manager
Jonathon Cornett
jcornett@email.unc.edu

BIOLOGICAL AND BIOMEDICAL SCIENCES PROGRAM (GRAD)

The Biological and Biomedical Sciences Program (BBSP) of the University of North Carolina at Chapel Hill is an umbrella admissions and first-year program for 15 Ph.D. programs in the School of Medicine, Eshelman School of Pharmacy, Gillings School of Global Public Health, and the College of Arts and Sciences. The following programs are affiliated with BBSP. Applied Physical Sciences, Biochemistry and Biophysics, Bioinformatics and Computational Biology, Biology (MCDB Division), Cell Biology and Physiology, Chemistry (Biological Chemistry Division), Genetics and Molecular Biology, Microbiology and Immunology, Neuroscience, Nutrition (Biochemistry Division), Oral and Craniofacial Biomedicine, Pathobiology and Translational Science, Pharmaceutical Sciences (Medicinal Chemistry and Molecular Pharmaceutics tracks), Pharmacology, and Toxicology. Students interested in pursuing a Ph.D. in any of these programs apply to the BBSP. For a complete list of faculty in BBSP see the faculty page (http://bbsp.unc.edu/research/faculty-database/) of the program's website. See individual program listings for more information about individual Ph.D. programs. These also can be accessed from the BBSP website (https://bbsp.unc.edu/).

Admission Requirements

A bachelor's degree (B.S. or B.A.) is required for admission into BBSP. Successful applicants have a strong background in the biological sciences, chemistry, physics, or mathematics. Only applicants with both strong academic records and prior research experience are favorably considered. An interview is required prior to admission.

Financial Assistance

All BBSP students receive an annual stipend ($37,000 in 2024–2025). Tuition, health insurance, dental insurance, and fees are covered by the program.

Biological & Biomedical Sciences Program (BBSP)

The Biological & Biomedical Sciences Program (BBSP) at UNC Chapel Hill is an umbrella application and first-year training program for bioscience Ph.D. students. With just 1 application BBSP students have access to over 350 research faculty affiliated with 15 different Ph.D. programs across UNC's campus. BBSP provides individualized advising, a community, and professional skills training during the first year to establish a solid foundation of skills. The Ph.D. programs selected by BBSP students at the end of their first year provide comprehensive scientific training at the highest level. UNC also offers extensive professional development programming aimed at preparing the next generation of scientific leaders. We welcome applicants from a variety of educational backgrounds and professional pathways to consider UNC for graduate training.

Course Requirements

Code	Title	Hours
Core Courses		
BBSP 901	Research in Biological and Biomedical Sciences (Fall and Spring)	6
BBSP 902	Seminar in Biological and Biomedical Sciences (Fall and Spring)	4
BBSP 903A	Research in Biological and Biomedical Sciences - Part I (Fall)	1.5
BBSP 903B	Research in Biological and Biomedical Sciences - Part II (Spring)	1.5
BBSP 705	Best Practices for Rigor and Reproducibility in Research (Spring)	1
Electives		
Any course in biomedical sciences, typically those offered by our 15 partner PhD programs. (Fall and Spring)		4
Minimum Hours		**18**

Ph.D. Programs

- Applied Physical Sciences (p. 70)
- Biochemistry & Biophysics (p. 106)
- Bioinformatics & Computational Biology (p. 114)
- Biology (p. 121)
- Cell Biology & Physiology (p. 176)
- Chemistry (p. 181)
- Genetics & Molecular Biology (p. 381)
- Microbiology & Immunology (p. 567)
- Neuroscience (p. 577)
- Nutrition (p. 601)
- Oral & Craniofacial Biomedicine (p. 247)
- Pathobiology & Translational Science (p. 616)
- Pharmaceutical Sciences (p. 629)
- Pharmacology (p. 623)
- Toxicology & Environmental Medicine (p. 783)

BBSP

Graduate-level Courses

BBSP 705. Best Practices for Rigor and Reproducibility in Research. 1 Credits.
A workshop to introduce best practices for increasing rigor and reproducibility in research. Permission of course directors required.

Rules & Requirements
Grading Status: Letter grade.
Same as: BIOL 705.

BBSP 710. Biostatistics for Laboratory Scientists. 2 Credits.
BBSP 710 introduces basic concepts of statistics in the experimental biological sciences to 2nd year+ graduate students. Focus is on mastery of common statistical skills and familiarity with advanced analytical skills, with an emphasis on graphing and statistical analysis using GraphPad Prism. Sample topics include experimental design, hypothesis testing, inferential statistics, power, correlation and regression. No previous background in statistics is required, but access to multiple devices and a stable internet connection is needed.

Rules & Requirements
Grading Status: Letter grade.

BBSP 890. Special Topics in the Biological and Biomedical Sciences Program. 1-3 Credits.
Permission of the instructor. Seminar/Discussion course dealing with advanced topics in the biological and biomedical sciences.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 9 total credits. 3 total completions.
Grading Status: Letter grade.

BBSP 901. Research in Biological and Biomedical Sciences. 3 Credits.
Enrollment in BBSP program required. Lab rotations with BBSP faculty.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

BBSP 902. Seminar in Biological and Biomedical Sciences. 0.5-4 Credits.
Enrollment in BBSP program required. First Year Group course of small interest-based groups led by faculty advisors. Includes professional skills development in a research community.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

BBSP 903B. Research in Biological and Biomedical Sciences - Part II. 1.5 Credits.
Enrollment in BBSP program required. Lab rotations with BBSP faculty. This lab rotation is Part II of a two part lab rotation which spans fall and spring semesters.

Rules & Requirements
Grading Status: Letter grade.

BBSP 903A. Research in Biological and Biomedical Sciences - Part I. 1.5 Credits.
Enrollment in BBSP program required. Lab rotations with BBSP faculty. This lab rotation is Part I of a two part lab rotation which spans fall and spring semesters.

Rules & Requirements
Grading Status: Letter grade.

Contact Information

Biological and Biomedical Sciences Program
Visit Program Website (http://bbsp.unc.edu)

Director
David McDonald
david.mcdonald@unc.edu

Faculty Director
Michelle Itano
itano@unc.edu

DEPARTMENT OF BIOLOGY (GRAD)

With the recommendation of the department and the approval of the Administrative Board of The Graduate School, special courses and the direction of graduate studies are offered by the staff of the Institute of Marine Sciences, Morehead City, North Carolina.

The Department of Biology offers a program of study leading to a doctor of philosophy degree in biology. It also offers two masters degrees: a master of science degree requiring independent research and a thesis, and a master of arts degree requiring a written library report. However, the master's degree programs only admit students on an individual basis in the following cases: 1. A request is initiated by a prospective student's graduate advisor, or 2. A current student in the Ph.D. degree program requests to move to a master's degree program. Special departmental rules and guidelines for advanced degrees are available upon request. For more information regarding our programs, please visit the Biology website.

Facilities

The Department of Biology is currently housed in four modern buildings. The newest building, the Genome Sciences Building, opened in July 2012. The department is equipped with modern instrumentation for research and research training in the diverse biological disciplines represented by the faculty.

UNC–Chapel Hill has a world-class library system, including the Health Science Library, which is dedicated to resources related to biological research. A major research asset is the location of the University, which makes the varied flora and fauna of the Appalachian Mountains, Piedmont Plateau, Coastal Plain, and Atlantic Coast accessible for research and instruction. The department operates a small field station a few miles from the Chapel Hill campus in the Mason Farm Biological Reserve, which includes several hundred acres of upland and floodplain habitats.

The Coker Arboretum and the North Carolina Botanical Garden are of value to students in the study of questions in plant biology. The Herbarium, containing more than 600,000 specimens, is especially rich in collections of the vascular plants and fungi of the Carolinas and the Southeastern United States.

The Highlands Biological Station, administered for the University system by Western Carolina University, is located in the biologically rich mountains at Highlands, North Carolina. Graduate courses offered cover various parts of the mountain biota. Credit may be obtained through UNC–Chapel Hill or Western Carolina University. A limited amount of research support is available on a competitive basis. (See the annual announcement of the Highlands Biological Station.)

The University is a member of the Organization for Tropical Studies (OTS). Financial support is available for students attending OTS courses in tropical ecology in Costa Rica.

Additional information about the graduate program including instructions for application is available online (http://bio.unc.edu).

Fellowships and Assistantships

Applicants interested in genetics, molecular biology, cell biology, development, or physiology should apply to the graduate program via the Biology and Biomedical Sciences Program (BBSP (http://bbsp.unc.edu/)) application portal. Applicants with an interest in evolutionary biology, ecology, behavior, organismal biology, or quantitative biology should apply to the biology graduate program using UNC's Graduate School application portal (http://gradschool.unc.edu/admissions/). Application for admission and graduate appointments should be submitted according to The Graduate School and departmental deadlines.

All outstanding prospective graduate students who apply for admission are automatically considered for University fellowships.

More than 45 teaching assistantships in undergraduate courses are open to graduate students. Duties of assistants can include lab preparation, grading, holding office hours, and other administrative tasks. Duties usually require 15 to 20 hours per week, including six contact hours in classes and 9 to 14 hours of preparation or other services associated with instruction.

Research assistantships are also available. Salaries and duties are variable as determined by the research needs of faculty supervising the work. Applications for these appointments must be made personally to faculty members directing grant-supported research.

The following awards are specifically for graduate students in the Biology Department:

- The Alma Holland Beers Scholarships are awarded annually to support summer research of students in botany. They are non-service awards.
- The William Chambers Coker Fellowship is awarded annually to a student or students in the final years of work toward a doctor of philosophy in a botanical field. This is a non-service award that carries with it an additional supplement for tuition and fees.
- The Mrs. W.C. Coker Fellowship is awarded annually to an outstanding first-year graduate student in plant biology. This is also a nonservice award that carries with it an additional supplement for tuition and fees.
- The H.V. Wilson Marine Scholarship is awarded annually for summer work at a marine laboratory. It is a nonservice award.

The faculty members in the Department of Biology offer instruction and research training in the following diverse biological disciplines.

Genetics and Molecular Biology

Genetics is both a discipline (the study of heredity) and an experimental approach (manipulation of genes or the genetic material). Today, most geneticists work at the molecular level by manipulating RNA, DNA, or entire genomes. Our group is strong in both model organism genetics and genomics. Areas of emphasis include biochemistry and molecular biology, chromosome biology, developmental genetics, genomics, protein synthesis, enzyme mechanics, and plant genetics.

Cell Biology, Development, and Physiology

Developmental biologists address the mechanisms through which cells acquire specialized functions to form complex body plans. These features are accomplished in part through cell proliferation, migration, and shape changes. The department has a strong research program in these areas, which are major topics in cell biology, as well as in

other aspects of developmental biology. Areas of emphasis include cytology, mitotic and meiotic mechanisms, histochemistry, experimental morphogenesis, morphogenetic movements, tissue culture, hormones, plant development, signal transduction, functional morphology, biomechanics and neuroethology, and membrane functions.

Evolutionary Biology

Evolution is inherited change in the characteristics of populations over time. Evolutionary biologists seek to explain the remarkable fit of organisms to their environment (adaptation), the origins of diversity, including the formation of new species (speciation), and the relationships among organisms. The department has a strong focus on the genetic and ecological mechanisms of adaptation and speciation.

Ecology

Ecologists study how organisms interact with other organisms and with their physical environment. UNC–Chapel Hill's group has strength in behavioral, conservation, community, disease, evolutionary, and marine ecology. Areas of emphasis include population biology, life histories, and ecosystem phenomena in diverse systems.

Behavior and Organismal Biology

Organismal biologists seek to understand the diversity of life forms on earth by analyzing organismal structure and function. UNC–Chapel Hill's Department of Biology takes an integrative approach to this research, combining analyses at levels ranging from molecules to whole organisms. The group also endeavors to understand the evolution and mechanisms of behavior. It uses theoretical, observational, and experimental approaches in a variety of species, from crawling behavior in sea slugs to communication in birds. Areas of emphasis include social and mating systems of vertebrates, communication, ecology and ontogeny of behavior, predator-prey interactions, marine ecology and oceanography, comparative physiology, neuroethology, functional morphology, and comparative biomechanics.

Plant Biology

The department has an active and diverse group that studies features specific to plants or that uses plant model systems to address questions of broad interest. Areas of emphasis include host-pathogen interactions, signal transduction, development, genomics, and chromosome biology.

Marine Biology

After completing required coursework in the department, students in marine biology have access to the research facilities of the Institute of Marine Sciences, Morehead City, North Carolina. By cooperative arrangements, deep water research can be carried out through the use of the research vessel of the Duke University Marine Laboratory.

Quantitative Biology

The quantitative biology track of study will develop young scientists who can investigate how basic physical processes have been brought together in living systems. One component of the training program will focus on events at smaller scales, micron-level and below, to cellular, sub-cellular, and multi-cellular processes. Another component will focus on events at larger scales, from the tissue to organ level, to processes at the organism and population level. Despite this distinction for most projects, a central goal of the training will be to prepare students to work on multi-scale problems that connect disparate levels of biology. This track of study features and fosters extensive interactions among students and faculty. Core training components will be rigorous, but will be combined with the programmatic flexibility as needed to accommodate the training goals of students with diverse backgrounds. Every aspect of the program will encourage innovative, imaginative, and unconventional approaches to physical biology.

Interdisciplinary Studies

Inter-departmental degree programs in genetics, ecology, neurobiology, and marine sciences offer unusual opportunities for special training through participation of staff from the Department of Biology and many other departments in the College of Arts and Sciences and the Division of Health Affairs.

Professors

Shawn C. Ahmed, Telomeres, Genomic Change and Germ Cell Immortality
Albert S. Baldwin, Signaling and Gene Expression in Cancer
Victoria L. Bautch, Molecular Basis of Development
Kerry S. Bloom, Chromosome Engineering, Molecular Biophysics
John Bruno, Marine Ecology and Conservation
Christina L. Burch, Experimental Evolution of Viruses
Sabrina S. Burmeister, Neurobiology and Behavior
Frank L. Conlon, Xenopus, Mesoderm, Heart, Tbox Genes
Gregory P. Copenhaver, Plant Genome Biology, Recombination, Centromeres
Jeffrey L. Dangl, Genetic and Molecular Analysis of Disease Resistance
Robert J. Duronio, Epigenetics and Cell Cycle Control
Terry Furey, Computational Gene Regulatory Genomics, Crohn's Disease
Patricia G. Gensel, Paleobotany and Morphology
Robert P. Goldstein, Cellular and Molecular Mechanisms
Tyson L. Hedrick, Biomechanics and Animal Locomotion
Allen H. Hurlbert, Community Ecology, Biogeography, Biodiversity
Corbin D. Jones, Evolutionary Genetics and Genomics
Joseph J. Kieber, Plant Cell Biology
Joel G. Kingsolver, Evolutionary Ecology and Physiological Ecology
Alain Laederach, Disease-Associated Mutations and Their Effect on RNA Structure
Kenneth J. Lohmann, Neuroethology and Invertebrate Zoology
Amy S. Maddox, Mechanisms of Cell Shape Change
A. Gregory Matera, RNA Processing and Epigenetics
Ann G. Matthysse, Molecular Biology and Plant Pathology
Daniel Matute, Evolutionary Genetics
Charles E. Mitchell, Ecology of Infectious Disease
Mark A. Peifer, Cell Adhesion and Cell-Cell Signaling
David Pfennig, Ecology, Evolutionary Biology, Developmental Biology
Karin S. Pfennig, Ecology, Behavior, and Evolution
Jason W. Reed, Plant Growth and Development
Jeff Sekelsky, Meiotic Recombination, DNA Repair
Maria R. Servedio, Evolutionary Theory, Speciation, Sexual Selection

Associate Professors

Jill M. Dowen, Three-Dimensional Genome Architecture and Gene Regulation
Toshihide Hige, Neurophysiology and Behavior in *Drosophila*
Paul S. Maddox, Cell Biology of Cell Division
Sophie McCoy, Community Ecology, Microbial Ecology, Marine and Aquatic Systems
Daniel J. McKay, Developmental Genomics
Zachary L. Nimchuk, Plant Biology, Developmental Genetics
Steven Rogers, Cytoskeletal Dynamics and Mechanosensation

Celia E. Shiau, Neuro-immune Interactions, Macrophage, Vertebrate Development, Genetics and Genomics, in Vivo Imaging
Kevin Slep, Cytoskeletal Structure and Dynamics
Keith W. Sockman, Reproductive Ecology and Plasticity
Todd J. Vision, Computational Genetics, Genome Evolution, and the Architecture of Complex Traits

Assistant Professors

Jiakun Chen, Neuroscience, Glial Biology, Astrocytes, Development, Genetics
Robert H. Dowen, Molecular Mechanisms of Cellular Homeostasis
Xiao Feng, Quantitative Ecology, Biogeography, Biodiversity
Kacy Gordon, Duplicate Gene Function in the Germ Line Stem Cell Niche
Parul Johri, Population Genetics, Statistical Inference, Evolutionary Genomics
Benjamin Parker, Host-Microbe Interactions, Symbiosis, and Evolution
Eric Riddell, Physiology, Ecology, and Evolution
En Yang, System Neuroscience, Neuronal Circuits Implementation, Neuroengineering
Senay Yitbarek, Ecology and Evolution of Host-Microbe Interactions

Research Professors

Alan M. Jones, Signal Perception and the Regulation of Growth and Development
Punita Nagpal, Plant Development
Robert K. Peet, Plant Ecology, Plant Geography, EcoInformatics
Nathanael Prunet, Microscopy
Darrel W. Stafford, Developmental Biochemistry
Jianke Tie, Protein Biochemistry and Molecular Biology
Michael Werner, Cell Shape Changes and Cortical Dynamics in Cytokinesis
Chris S. Willett, Evolutionary Genetics and Genomics
Elaine Yeh, Nuclear Division in Yeast

Associated Faculty

Joerg Bauer, Agricultural Research and Development
James T. Costa, Social Behavior, History of Evolutionary Biology
Stephen T. Crews, Molecular Genetics
Frederick Joel Fodrie, Fish and Bivalve Population Ecology
Paul W. Gabrielson, Systematics of Marine Algae
Amy Gladfelter, Cytoskeleton Dynamics, Biophysical Cell Biology, Cytoplasm Organization
Kelly A. Hogan, Curriculum and Instruction: Inclusive Learning in Large STEM Courses
Julie Horvath, Genomics and Microbiology
William F. Marzluff, Transcriptional and Post-transcriptional Regulation of RNA Metabolism, Cell Cycle Regulation During Development
Joe Ruiz, Therapeutics for Nucleotide Expansion Disorders
John Salmeron, Plant Biotechnology and Plant-Based Pharmaceuticals
Aziz Sancar, DNA Repair and Cancer, Structure and Function of DNA Repair Enzymes, Molecular Neurobiology, Circadian Biology
Alecia Septer, Microbial Ecology, Microbiology
Bryan Stuart, Biodiversity, Systematics, Conservation and Herpetology
Brian K. Taylor, Animal Navigation and Magnetoreception
Damon E. Waitt, Professor of the Practice; Plant Evolution and Ecology
Alan Weakley, Plant Systematics
Scott Williams, Cell Division, Developmental Biology, Cell Biology

Universidad San Francisco de Quito Associated Faculty

Paul Andres Cardenas Aldaz, Pathogenic Microbiology, Molecular Markers, Microbial Genetics
Jaime Chaves, Population Genetics, Sea Turtle Conservation
Juan Guayasamin, Evolutionary Biology, Biogeography
Alexander Rafael Hearn, Oceanic Islets Role in Pelagic Environment, Sea Turtle Conservation
Antonio Leon-Reyes Sr., Plant Physiology, Plant Immunology, Plant-Microbe Interactions, Plant Biotechnology
Maria de Lourdes Torres, Hybridization Events between Endemic and Invasive Plant Species

Professors Emeriti

Aristotle J. Domnas
J. Alan Feduccia
Sarah R. Grant
Alan M. Jones
William M. Kier
Gustavo Maroni
Steven W. Matson
E.D. Salmon
Lillie L. Searles
Alan E. Stiven
Peter White
R. Haven Wiley

BIOL

Advanced Undergraduate and Graduate-level Courses

BIOL 402. Infectious Disease in the Developing World. 3 Credits.
We will explore the challenges of infectious disease in the developing world, focusing on tuberculosis, HIV, and malaria. We will also examine the economics of different approaches to health care.

Rules & Requirements
Requisites: Prerequisites, BIOL 205; or BIOL 103 and BIOL 104 and BIOL 220 and BIOL 240.
Grading Status: Letter grade.

BIOL 405. Good Genes: Human Reproduction in the Social Context. 3 Credits.
Reproduction is the most ancient feature of life and a continued focus of cutting-edge medical technology. This interdisciplinary course examines our biological imperative and cultural quest to make babies. We examine reproduction from the perspectives of bioethics, reproductive medicine, behavioral economics, genetic engineering, disability studies, and gender studies. Teaching methods include traditional lectures, in-class discussions, group work, peer teaching, and occasional flipped-classroom. Students who previously took BIOL 89/490 with Dr. Zwemer may not enroll.

Rules & Requirements
Requisites: Prerequisite, BIOL 220; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

BIOL 409L. Art and Science: Merging Printmaking and Biology. 1 Credits.
This is the lab component of ARTS 409 that brings together art majors and science majors to combine theory and practical learning in a biology laboratory, which focusing primarily on microscopic life and biological motion, with printmaking. Does not count as an elective towards the biology major. Permission of the instructor.

Rules & Requirements
Requisites: Prerequisites, A 200-level BIOL course, or a 200-level ARTS course; and permission of the instructor; Corequisite, ARTS 409.
Grading Status: Letter grade.

BIOL 421L. Bacterial Genetics Laboratory. 1 Credits.
Sterile technique, basic bacteriological techniques, spontaneous mutants, conjugation, biochemical pathways, transformation, transposon mutagenesis, characterizing a mutant.

Rules & Requirements
Requisites: Prerequisites, BIOL 220 and BIOL 105L; Corequisite, BIOL 421.
Grading Status: Letter grade.

BIOL 421. Bacterial Genetics. 3 Credits.
An introduction to the genetics of bacteria. Gene organization, regulation of gene expression, mutation, movable genetic elements, and evolution. Consideration of genes involved in pathogenesis.

Rules & Requirements
Requisites: Prerequisite, BIOL 220 or permission of instructor; Corequisite, BIOL 421L.
Grading Status: Letter grade.

BIOL 422. Microbiology. 3 Credits.
Bacterial form, growth, physiology, genetics, and diversity. Bacterial interactions including symbiosis and pathogenesis (animal and plant). Use of bacteria in biotechnology. Brief introduction to viruses.

Rules & Requirements
Requisites: Prerequisites, BIOL 202; or BIOL 103 and BIOL 104 and BIOL 220; or permission of the instructor for students lacking the prerequisite(s).
Grading Status: Letter grade.

BIOL 422L. Microbiology Laboratory. 1-2 Credits.
Sterile technique, bacterial growth and physiology, bacterial genetics, bacteriophage, and bacterial diversity.

Rules & Requirements
Requisites: Prerequisite, BIOL 105L; Pre- or corequisite, BIOL 422.
Grading Status: Letter grade.

BIOL 423. Genetics Experiments. 3 Credits.
This is a Course-based Undergraduate Research Experience (CURE) combination course/lab. Using genetics and genome biology, students will study DNA repair and chromosome stability using yeast as a model system in a cutting edge research laboratory.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Requisites: Prerequisites, BIOL 103, BIOL 104, and BIOL 220; Corequisite, BIOL 423L.
Grading Status: Letter grade.

BIOL 423L. Genetics Experiments Laboratory. 1 Credits.
This is a Course-based Undergraduate Research Experience (CURE) combination course/lab. Using genetics and genome biology, students will study DNA repair and chromosome stability using yeast as a model system in a cutting edge research laboratory.

Rules & Requirements
Requisites: Prerequisites, BIOL 103, BIOL 104, BIOL 220, and BIOL 105L; Corequisite, BIOL 423.
Grading Status: Letter grade.

BIOL 424. Microbial Ecology. 3 Credits.
Class emphasizes the creativity of the scientific process, using primary scientific literature as a framework to discuss topics in microbial ecology, including microbial diversity, distributions, genomics, and co-evolution; host-microbe and microbe-microbe interactions; nutrient cycling; and degradation of plant matter and biofuels.

Rules & Requirements
Requisites: Prerequisites, BIOL 201 and 202; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

BIOL 425. Human Genetics. 3 Credits.
Pedigree analysis, inheritance of complex traits, DNA damage and repair, human genome organization, DNA fingerprinting, the genes of hereditary diseases, chromosomal aberrations, cancer and oncogenes, immunogenetics and tissue transplants. Three lecture hours a week.

Rules & Requirements
Requisites: Prerequisites, BIOL 202; or BIOL 103 and BIOL 104 and BIOL 220; or permission of the instructor for students lacking the prerequisite(s).
Grading Status: Letter grade.

BIOL 426. Biology of Blood Diseases. 3 Credits.
An introduction to the biology and pathophysiology of blood and the molecular mechanisms of some human diseases: anemias; leukemias; hemorrhagic, thrombotic, and vascular disorders; and HIV disease/AIDS. Honors version available.

Rules & Requirements
Requisites: Prerequisites, BIOL 205; or BIOL 103 and BIOL 104 and BIOL 240; or permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Same as: PATH 426.

BIOL 427. Human Diversity and Population Genetics. 3 Credits.
Specifically, it addresses questions of human origins, population structure, and genetic diversity. This course investigates the facts, methods, and theories behind human population genetics, evolution, and diversity.

Rules & Requirements
Requisites: Prerequisites, BIOL 201 and 202; or BIOL 103 and 104; or permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

BIOL 428. Biology of Viruses. 3 Credits.
Historically viruses are microscopic disease-causing vectors that make headlines around the world as they emerge, spread, and evolve. More recently, viruses are being used as therapeutic agents to treat disease. The course will provide a historical perspective of viruses past to present. Students will learn virus history, molecular biology of viruses and infection, discovery and treatment of emerging viruses, and the impact of viruses on society.

Rules & Requirements
Requisites: Prerequisites, BIOL 103, and BIOL 104, and either BIOL 220 or BIOL 240.
Grading Status: Letter grade.

BIOL 430. Introduction to Biological Chemistry. 3 Credits.
The study of cellular processes including catalysts, metabolism, bioenergetics, and biochemical genetics. The structure and function of biological macromolecules involved in these processes is emphasized. Honors version available.

Rules & Requirements
Requisites: Prerequisites, BIOL 101, and CHEM 262 or 262H.
Grading Status: Letter grade.
Same as: CHEM 430.

BIOL 431. Biological Physics. 3 Credits.
How diffusion, entropy, electrostatics, and hydrophobicity generate order and force in biology. Topics include DNA manipulation, intracellular transport, cell division, molecular motors, single molecule biophysics techniques, nerve impulses, neuroscience.

Rules & Requirements
Requisites: Prerequisites, PHYS 116 and 117, or PHYS 118 and 119.
Grading Status: Letter grade.
Same as: PHYS 405, BMME 435.

BIOL 434. Molecular Biology. 3 Credits.
Advanced studies in molecular biology from an experimental approach.

Rules & Requirements
Requisites: Prerequisites, BIOL 202 and CHEM 261; or BIOL 103, BIOL 104, BIOL 220, and CHEM 261; or permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

BIOL 436. Plant Genetics, Development, and Biotechnology. 3 Credits.
Recent advances in plant molecular biology, genetics, development, and biotechnology, and their potential relevance to agriculture. The course will include lectures, reading and discussions of papers from the primary literature, and student presentations. Honors version available.

Rules & Requirements
Requisites: Prerequisites, BIOL 202; or BIOL 271; or BIOL 103, BIOL 104, and BIOL 220; or permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

BIOL 439. Introduction to Signal Transduction. 3 Credits.
This course presents an introduction to signal transduction pathways used by higher eukaryotes. Several signaling paradigms will be discussed to illustrate the ways that cells transmit information. Three lecture hours per week.

Rules & Requirements
Requisites: Prerequisites, BIOL 205; or BIOL 103, BIOL 104, and BIOL 240; or permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

BIOL 440. Stem Cell Biology. 3 Credits.
Stem cells are important for a number of biological processes and have become topics of fascination in popular science and culture. This course will build from a solid foundation of genetics, cell, and developmental biology to give students a broad appreciation of stem cells in development, aging, disease, and bioengineering. Students will understand key concepts in stem cell biology like potential and immortality as well as understand stem cells' promise and limitations in therapeutic settings.

Rules & Requirements
Requisites: Prerequisites, BIOL 202; or BIOL 103 and BIOL 104 and (BIOL 220 or BIOL 240); or permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

BIOL 441. Vertebrate Embryology. 3 Credits.
Principles of development with special emphasis on gametogenesis, fertilization, cleavage, germ layer formation, organogenesis, and mechanisms, with experimental analysis of developmental processes. Three lecture hours a week.

Rules & Requirements
Requisites: Prerequisites, BIOL 103, and BIOL 104, and either BIOL 240 or BIOL 252; or permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

BIOL 441L. Vertebrate Embryology Laboratory. 1 Credits.
Descriptive and some experimental aspects of vertebrate development. Three laboratory hours a week.

Rules & Requirements
Requisites: Prerequisite, BIOL 105L; Pre- or corequisite, BIOL 441.
Grading Status: Letter grade.

BIOL 442. Self Assembly in Cell Biology. 3 Credits.
In this class, we will read and discuss together the primary literature to understand how self-assembly in cell biology is harnessed in normal cells and goes awry in disease. A secondary goal will be for students to develop numeracy in cell biology so as to understand cell processes in a quantitative framework.

Rules & Requirements
Requisites: Prerequisites, BIOL 205 and another BIOL course numbered above 205; or BIOL 103, and BIOL 104, and BIOL 220 or BIOL 240; or permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

BIOL 443. Developmental Biology. 3 Credits.
An experimental approach to an understanding of animals and plants. The approach covers developmental processes, molecular, genetic, cell biological and biochemical techniques, with an emphasis on the molecules involved in development.

Rules & Requirements
Requisites: Prerequisites, BIOL 205; or BIOL 103, and BIOL 104, and BIOL 220 or BIOL 240; or permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

BIOL 444. Molecular Basis of Disease. 3 Credits.
This course investigates the biological causes behind human diseases via critical thinking and analysis of experimental research outcomes. It approaches topics from a research perspective similar to a graduate seminar. Topics covered include genetic/inherited diseases, metabolic diseases, immunological disorders, infectious diseases, cancer, cardiovascular diseases, and neurological diseases.

Rules & Requirements
Requisites: Prerequisites, BIOL 103, BIOL 104, and BIOL 240.
Grading Status: Letter grade.

BIOL 445. Cancer Biology. 3 Credits.
Selected examples will be used to illustrate how basic research allows us to understand the mechanistic basis of cancer and how these insights offer hope for new treatments.

Rules & Requirements
Requisites: Prerequisites, BIOL 205; or BIOL 103, BIOL 104, BIOL 220, and BIOL 240.
Grading Status: Letter grade.

BIOL 446. Unsolved Problems in Cellular Biology. 3 Credits.
A survey of areas of current interest in cytology, embryology, and genetics with concentration on problems that remain unsolved but that appear to be near solution. Three lecture and discussion hours a week.

Rules & Requirements
Requisites: Prerequisites, BIOL 103, BIOL 104, and BIOL 240; or permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

BIOL 447. Cell Biology: Beyond Core Basics. 1 Credits.
Modern methods in cell biology.

Rules & Requirements
Requisites: Prerequisites, BIOL 205 with C+ or better; or BIOL 103, BIOL 104, and BIOL 240; or permission of the instructor for students lacking the prerequisites; Corequisite, BIOL 447L.
Grading Status: Letter grade.

BIOL 447L. Cell Biology: Beyond Core Basics Laboratory. 3 Credits.
Modern methods in cell biology lab.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Requisites: Prerequisites, BIOL 205 with C+ or better; or BIOL 103, BIOL 104, BIOL 240, and BIOL 105L; or permission of the instructor for students lacking the prerequisites; Corequisite, BIOL 447.
Grading Status: Letter grade.

BIOL 448. Advanced Cell Biology. 3 Credits.
An advanced course in cell biology, with emphasis on the biochemistry and molecular biology of cell structure and function. Three lecture hours a week.

Rules & Requirements
Requisites: Prerequisites, BIOL 205; or BIOL 103, BIOL 104, and BIOL 240; or permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

BIOL 449. Introduction to Immunology. 3 Credits.
This course provides a general overview of the evolution, organization, and function of the immune system. Instruction will be inquiry-based with extensive use of informational and instructional technology tools.

Rules & Requirements
Requisites: Prerequisites, BIOL 205; or BIOL 103, BIOL 104, and BIOL 240; or permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.
Same as: MCRO 449.

BIOL 450. Neurobiology. 3 Credits.
Recommended preparation, BIOL 205. Survey of neurobiological principles in vertebrates and invertebrates, including development, morphology, physiology, and molecular mechanisms. Three lectures a week.

Rules & Requirements
Requisites: Prerequisites, BIOL 205; or BIOL 103, BIOL 104, and BIOL 240; or permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

BIOL 451. Comparative Physiology. 3 Credits.
An examination of the physiology of animals using a comparative approach. Both invertebrate and vertebrate animals are discussed in order to elucidate general principles.

Rules & Requirements
Requisites: Prerequisites, BIOL 101, and BIOL 101L or BIOL 102L, and PHYS 104 or 114 or 116, and PHYS 105 or 115 or 117.
Grading Status: Letter grade.

BIOL 451L. Comparative Physiology Laboratory. 1 Credits.
The fundamental principles of physiology are explored using physical models, animal experiments, and non invasive experiments on humans, reinforcing the understanding of concepts presented in lecture.

Rules & Requirements
Requisites: Prerequisite, BIOL 105L; Pre- or corequisite, BIOL 451.
Grading Status: Letter grade.

BIOL 452. Marine Microbial Symbioses: Exploring How Microbial Interactions Affect Ecosystems and Human Health. 3 Credits.
Course material covers host-microbe and microbe-microbe interactions found in marine ecosystems, including beneficial and parasitic relationships among viruses, microbes, marine animals, and humans. Limited to upper-level undergraduate science majors and graduate students. Course previously offered as MASC 446.

Rules & Requirements
Grading Status: Letter grade.
Same as: EMES 446.

BIOL 453. Molecular Control of Metabolism and Metabolic Disease. 3 Credits.
This class will cover the small molecules, enzymes, signaling proteins, and pathways that control metabolic processes and that are altered in metabolic disease. We will generally take an experimental approach to explore and understand the fundamental aspects of metabolism.

Rules & Requirements
Requisites: Prerequisites, BIOL 202 and CHEM 261; or BIOL 103, BIOL 104, BIOL 220, and BIOL 240; or permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

BIOL 454. Evolutionary Genetics. 3 Credits.
The roles of mutation, migration, genetic drift, and natural selection in the evolution of the genotype and phenotype. Basic principles are applied to biological studies. Three lecture hours a week.

Rules & Requirements
Requisites: Prerequisites, BIOL 201 and BIOL 202; or BIOL 103 and BIOL 104; or permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

BIOL 455. Behavioral Neuroscience. 3 Credits.
The neurobiological basis of animal behavior at the level of single cells, neural circuits, sensory systems, and organisms. Lecture topics range from principles of cellular neurobiology to ethological field studies.

Rules & Requirements
Requisites: Prerequisites, BIOL 205; or BIOL 103, BIOL 104, and BIOL 240; or permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

BIOL 456. Marine Phytoplankton. 3 Credits.
For junior and senior science majors or graduate students. Biology of marine photosynthetic protists and cyanobacteria. Phytoplankton evolution, biodiversity, structure, function, biogeochemical cycles and genomics. Harmful algal blooms, commercial products, and climate change. Three lecture/practical session hours per week. Course previously offered as MASC 444. Permission of the instructor.

Rules & Requirements
Grading Status: Letter grade.
Same as: EMES 444, ENEC 444.

BIOL 457. Marine Biology. 3 Credits.
Recommended preparation, BIOL 201 or 475. A survey of plants and animals that live in the sea: characteristics of marine habitats, organisms, and the ecosystems will be emphasized. Marine environment, the organisms involved, and the ecological systems that sustain them. Course previously offered as MASC 442.

Rules & Requirements
Grading Status: Letter grade.
Same as: EMES 442.

BIOL 458. Sensory Neurobiology and Behavior. 3 Credits.
Recommended preparation, BIOL 205. An exploration of sensory systems and sensory ecology in animals. Topics range from neurophysiological function of sensory receptors to the role of sensory cues in animal behavior.

Rules & Requirements
Requisites: Prerequisites, BIOL 103 and BIOL 104; BIOL 240 recommended.
Grading Status: Letter grade.

BIOL 459. Field Biology at Highlands Biological Station. 1-4 Credits.
Content varies. Summer field biology at the Highlands Biological Station focuses on the special faunal and floristic processes and patterns characteristic of the southern Appalachian mountains. Five lecture and three to five laboratory and field hours per week, depending on credit.

Rules & Requirements
Requisites: Prerequisite, BIOL 101; permission of the instructor for students lacking the prerequisite.
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 8 total credits. 2 total completions.
Grading Status: Letter grade.

BIOL 461. Fundamentals of Ecology. 4 Credits.
Students will develop a comprehensive understanding of the field of ecology, including modern and emerging trends in ecology. They will develop literacy in the fundamental theories and models that capture ecological processes; emphasis will also be placed on the relevance of ecology and ecological research for human society.

Rules & Requirements
Requisites: Prerequisites, BIOL 201; or BIOL 103, BIOL 104, and BIOL 260.
Grading Status: Letter grade.
Same as: ENEC 461.

BIOL 462. Marine Ecology. 3 Credits.
Survey of the ecological processes that structure marine communities in a range of coastal habitats. Course emphasizes experimental approaches to addressing basic and applied problems in marine systems. Course previously offered as MASC 440.

Rules & Requirements
Requisites: Prerequisites, BIOL 201; or BIOL 475; or BIOL 103, BIOL 104, and BIOL 260.
Grading Status: Letter grade.
Same as: EMES 440.

BIOL 463. Field Ecology. 4 Credits.
Application of ecological theory to terrestrial and/or freshwater systems. Lectures emphasize quantitative properties of interacting population and communities within these systems. Required laboratory teaches methodology applicable for analysis of these systems. Projects emphasize experimental testing of ecological theory in the field. Two lecture and six field hours a week.

Rules & Requirements
Requisites: Prerequisites, BIOL 103, BIOL 104, and BIOL 260.
Grading Status: Letter grade.

BIOL 464. Global Change Biology. 3 Credits.
Responses of plants, animals, and communities to climate and other global changes, emphasizing ecology, physiology, behavior, and evolution. Investigation of past responses and tools for predicting future responses.

Rules & Requirements
Requisites: Prerequisites, BIOL 103, BIOL 104, and BIOL 260.
Grading Status: Letter grade.

BIOL 465. Global Biodiversity and Macroecology. 3 Credits.
We will explore global patterns of diversity of plants, animals, fungi, and microbes, and the insights gained by taking a statistical approach to describing these and other broad-scale ecological patterns.

Rules & Requirements
IDEAs in Action Gen Ed: FC-NATSCI or FC-QUANT, RESEARCH.
Requisites: Prerequisites, BIOL 201; or BIOL 103, BIOL 104, and BIOL 260; or permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.
Same as: ENEC 465.

BIOL 466. Environmental Microbiology. 3 Credits.
This course surveys multiple dimensions of environmental microbiology, including methods and techniques for microbial genomics, transcriptomics, and metabolomics, ecological and evolutionary microbiology, the roles of microbes in ecological systems, and current applications of and issues in environmental microbiology.

Rules & Requirements
Requisites: Prerequisites, BIOL 103 and BIOL 104.
Grading Status: Letter grade.
Same as: EMES 466.

BIOL 467. Computer Programming in Ecology and Population Modeling. 3 Credits.
This course should appeal to students interested in ecology, evolution, and organismal biology. Students will learn to develop simulations of individuals moving and reproducing across space, with a focus on exploring ecological theory. The course begins with learning the basics behind coding in Python, including programming basics, flow control, and functions. With these skills, students will then explore theory in population biology to understand the principles behind modeling population growth.

Rules & Requirements
Requisites: Prerequisites, BIOL 103 and BIOL 104; Pre- or corequisite, BIOL 260.
Grading Status: Letter grade.

BIOL 469. Behavioral Ecology. 3 Credits.
BIOL 278 recommended but not required and can be taken concurrently. Behavior as an adaptation to the environment. Evolution of behavioral strategies for survival and reproduction. Optimality and games that animals play. Three lecture hours a week.

Rules & Requirements
Requisites: Prerequisites, BIOL 201; or BIOL 103 and BIOL 104.
Grading Status: Letter grade.

BIOL 471. Evolutionary Mechanisms. 3 Credits.
Introduction to mechanisms of evolutionary change, including natural selection, population genetics, life history evolution, speciation, and micro- and macroevolutionary trends. Three lecture hours a week.

Rules & Requirements
Requisites: Prerequisites, BIOL 201 and BIOL 202; or BIOL 103 and BIOL 104; or permission of the instructor for students lacking the prerequisites; Corequisite, BIOL 471L.
Grading Status: Letter grade.

BIOL 471L. Evolutionary Mechanisms Laboratory. 1 Credits.
Introduction to mechanisms of evolutionary change, including natural selection, population genetics, life history evolution, speciation, and micro- and macroevolutionary trends. Three laboratory hours a week.

Rules & Requirements
Requisites: Prerequisites, BIOL 201 and BIOL 202; or BIOL 103 and BIOL 104 and BIOL 105L; or permission of the instructor for students lacking the prerequisites; Corequisite, BIOL 471.
Grading Status: Letter grade.

BIOL 472. Introduction to Plant Taxonomy. 4 Credits.
Introduction to the taxonomy of vascular plants. Principles of classification, identification, nomenclature, and description. Laboratory and field emphasis on phytography, families, description, identification, and classification of vascular plant species. Three lecture and three laboratory hours a week.

Rules & Requirements
Requisites: Prerequisites, BIOL 103, BIOL 104, and (BIOL 271 or BIOL 272); or permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

BIOL 473L. Mammalian Morphology Laboratory. 1 Credits.
Laboratory includes an opportunity for independent investigation of anatomy through dissection, virtual models, and/or 3D modeling.

Rules & Requirements
Requisites: Prerequisite, BIOL 105L; Corequisite, BIOL 473.
Grading Status: Letter grade.

BIOL 473. Mammalian Morphology and Development. 3 Credits.
An in-depth examination of the anatomical, evolutionary, and developmental history of mammals, including humans. Particular attention will be given to nervous, musculoskeletal and craniofacial structures.

Rules & Requirements
Requisites: Prerequisites, BIOL 103 and BIOL 104; Corequisite, BIOL 473L.
Grading Status: Letter grade.

BIOL 474. Evolution of Vertebrate Life. 3 Credits.
Evolutionary history of the vertebrates. Emphasis on anatomical, physiological, behavioral adaptations accompanying major transitions: the move from water to land, the development of complex integrating systems. Honors version available.

Rules & Requirements
Requisites: Prerequisites, BIOL 201; or BIOL 202; or BIOL 103 and BIOL 104; or permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

BIOL 474L. Vertebrate Structure and Evolution Laboratory. 1 Credits.
Vertebrate comparative anatomy of organ systems and their evolution with emphasis on human anatomy. Three laboratory hours a week.

Rules & Requirements
Requisites: Prerequisite, BIOL 105L; Pre- or corequisite, BIOL 474.
Grading Status: Letter grade.

BIOL 475. Biology of Marine Animals. 3 Credits.
Required preparation, one additional course in biology. An introduction to the major animal phyla emphasizing form, function, behavior, ecology, evolution, and classification of marine invertebrates. Three lecture and three laboratory hours per week.

Rules & Requirements
Requisites: Prerequisites, BIOL 101, and BIOL 101L or BIOL 102L; co-requisite, BIOL 475L.
Grading Status: Letter grade.

BIOL 475L. Biology of Marine Animals Laboratory. 1 Credits.
This lab serves as an introduction to the major animal phyla emphasizing form, function, behavior, ecology, evolution, and classification of marine invertebrates.

Rules & Requirements
Requisites: Prerequisites, BIOL 101, and BIOL 101L or BIOL 102L, BIOL 105L; Corequisite, BIOL 475.
Grading Status: Letter grade.

BIOL 476. Avian Biology. 3 Credits.
A study of avian evolution, anatomy, physiology, neurobiology, behavior, biogeography, and ecology. Three lecture hours a week.

Rules & Requirements
Requisites: Prerequisites, BIOL 101, and BIOL 101L or BIOL 102L; corequisite, BIOL 476L.
Grading Status: Letter grade.

BIOL 476L. Avian Biology Laboratory. 1 Credits.
Techniques for the study of avian evolution, ecology, and behavior with emphasis on North Carolina birds. Three laboratory or field hours a week, including one or two weekend field trips.

Rules & Requirements
Requisites: Prerequisite, BIOL 105L; Corequisite, BIOL 476.
Grading Status: Letter grade.

BIOL 479. Topics in Organismal Biology at an Advanced Level. 3 Credits.
Topics in organismal biology at an advanced undergraduate or graduate student level.

Rules & Requirements
Grading Status: Letter grade.

BIOL 479L. Laboratory in Organismal Biology: Advanced Topics. 1-2 Credits.
Laboratory in topics in organismal biology for advanced undergraduates and graduate students.

Rules & Requirements
Requisites: Prerequisite, BIOL 105L.
Grading Status: Letter grade.

BIOL 480. Discoveries in Prevention and Cure of Infectious Disease in London. 3 Credits.
This is a Burch summer honors course taught in London. We will examine three major discoveries relating to infectious disease (vaccination, transmission via water, and antibiotics) and one major epidemic (plague) which led to no scientific response and explore how the thought of the time influenced scientific research. Honors version available.

Rules & Requirements
Requisites: Prerequisites, BIOL 202; or BIOL 103 and BIOL 104; or permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

BIOL 481. Biology, History, and Evolution of Epidemic Diseases. 3 Credits.
A consideration of the biology and evolution of epidemic diseases and the response of society and the scientific community. Plague, smallpox, cholera, influenza, polio, and COVID-19. Readings from recent scientific papers and history and literature. Students may not receive credit for both BIOL 480 and 481.

Rules & Requirements
Requisites: Prerequisite, BIOL 422; or MCRO 251; or permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

BIOL 490. Advanced Topics in Biology. 3 Credits.
Permission of the instructor. Content will vary. Three lecture and discussion hours per week by visiting and resident faculty. Honors version available.

Rules & Requirements
Repeat Rules: May be repeated for credit. 12 total credits. 4 total completions.
Grading Status: Letter grade.

BIOL 495. Undergraduate Research in Biology. 1-3 Credits.
Permission of the instructor. Biology majors only. A continuation of the hands-on research in the laboratory and/or field that was started in BIOL 395. A final written paper is required each term. May be repeated. Does not count as a course in the major. Pass/fail credit only. Honors version available.

Rules & Requirements
Requisites: Prerequisite, BIOL 395.
Repeat Rules: May be repeated for credit. 12 total credits. 4 total completions.
Grading Status: Pass/Fail.

BIOL 501. Ethical Issues in Life Sciences. 3 Credits.
Permission of the instructor. A consideration and discussion of ethical issues in life sciences including cloning humans, genetic engineering, stem cell research, organ transplantation, and animal experimentation. Counts as a course numbered below 400 for biology major requirements.

Rules & Requirements
Grading Status: Letter grade.

BIOL 502. The Genome Editing Revolution. 3 Credits.
The goal of this course is to familiarize students with the theory, origins, and practice of genome engineering technologies and their applications in medicine and industry. In addition, we will consider the challenges and impacts to society and the ethical choices these technologies create. This course is intended for advanced undergraduates and graduate students. The course will cover primary literature frequently and evaluate the scientific data in these publications.

Rules & Requirements
Requisites: Prerequisite, BIOL 220.
Grading Status: Letter grade.

BIOL 514. Ecological and Evolutionary Developmental Biology. 3 Credits.
This course explores the history, concepts, and applications of the emerging field of ecological and evolutionary developmental biology. In doing so, students will learn how traits emerge from the interplay of genes and the environment and how such developmental plasticity impacts ecology, evolution, and health. Students will also gain experience interpreting scientific literature, planning creative research, and integrating ideas from disciplines ranging from molecular biology and the health sciences to ecology and evolutionary biology. Honors version available.

Rules & Requirements
Requisites: Prerequisites, BIOL 201 and BIOL 205; or BIOL 103 and BIOL 104; or permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

BIOL 523. Sex Differences in Human Disease. 3 Credits.
Many human diseases including cancer, cardiovascular disease, dementia, chronic kidney disease, obesity, and auto-immune disease differ in their pathology and treatment between males and females. The class will first cover the hormonal and genetic mechanisms of sex determination, and then build on this knowledge to understand sexual disparities in the development and potential treatments of disease. The course will be based on primary literature and discussions of experimental evidence.

Rules & Requirements
Requisites: Prerequisites, BIOL 202; or BIOL 205; or BIOL 103 and BIOL 104.
Grading Status: Letter grade.

BIOL 524. Strategies of Host-Microbe Interactions. 3 Credits.
There is great variety in how microbes colonize and live with their hosts. The course will summarize strategies of pathogenicity, symbiosis, commensalism and mutualism. Evolutionary, cellular, and molecular aspects will be analyzed.

Rules & Requirements
Requisites: Prerequisites, BIOL 103, BIOL 104 and BIOL 240; or permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

BIOL 525. Analysis and Interpretation of Sequence-Based Functional Genomics Experiments. 3 Credits.
Practical introduction to functional genomics experiments, such as RNA-seq and ChIP-seq, and computational techniques for the analysis of these data derived from high-throughput sequencing. Interpretation of results will be stressed. Basic knowledge of molecular biology, beginning level computational skills, and familiarity with basic statistical concepts are expected. Three lecture hours a week.

Rules & Requirements
Requisites: Prerequisites, BIOL 202, or BIOL 103 and BIOL 104 and BIOL 220; and COMP 110 or COMP 116; and STOR 120 or STOR 155; or permission of the instructor for students lacking the prerequisites; Corequisite, BIOL 525L.
Grading Status: Letter grade.

BIOL 525L. Analysis and Interpretation of Sequence-Based Functional Genomics Experiments Laboratory. 1 Credits.
Computer lab will provide students with experience using computational software for analysis of functional genomics experiments. Basic knowledge of molecular biology, beginning level computer skills, and familiarity with basic statistical concepts are expected. One laboratory hour a week.

Rules & Requirements
Requisites: Prerequisites, BIOL 202, or BIOL 103 and BIOL 104 and BIOL 220 and BIOL 105L; and COMP 110 or COMP 116; and STOR 120 or STOR 155; or permission of the instructor for students lacking the prerequisites; Corequisite, BIOL 525.
Grading Status: Letter grade.

BIOL 526. Computational Genetics. 4 Credits.
Introduction to computational principles underlying sequence alignment and phylogenetics, genome assembly and annotation, analysis of gene function, and other bioinformatics applications. Includes a one-hour computer laboratory. Honors version available.

Rules & Requirements
Requisites: Prerequisites, BIOL 103, BIOL 104, and BIOL 220; and COMP 110 or COMP 116 or BIOL 226; and STOR 120 or STOR 155; or permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

BIOL 527. Seminar in Quantitative Biology. 3 Credits.
Seminar in quantitative biology for advanced students. The course counts as a quantitative biology course for the major.

Rules & Requirements
Requisites: Prerequisites, BIOL 103 and BIOL 104; and COMP 110 or COMP 116; and MATH 232; or permission of the instructor for students lacking the prerequisites.
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

BIOL 527L. Laboratory in Quantitative Biology. 1 Credits.
Laboratory in quantitative biology for advanced students. The laboratory will involve mathematical analysis and modeling of biological systems and processes.

Rules & Requirements
Requisites: Prerequisite, BIOL 105L.
Repeat Rules: May be repeated for credit. 4 total credits. 4 total completions.
Grading Status: Letter grade.

BIOL 528. Quantitative Personalized Genomics. 3 Credits.
Personalized medicine, specifically using genetic markers to improve outcomes and minimize side effects (pharmacogenomics) requires the development and application of advanced computational and quantitative techniques. Students will develop computational skills to address contemporary genomic and statistical problems.

Rules & Requirements
Requisites: Prerequisites, BIOL 202, or BIOL 103 and BIOL 104 and BIOL 220; and COMP 110 or COMP 116 or BIOL 226; or permission of the instructor for students lacking the prerequisites; Corequisite, BIOL 528L.
Grading Status: Letter grade.

BIOL 528L. Quantitative Personalized Genomics Laboratory. 1 Credits.
Personalized medicine, specifically using genetic markers to improve outcomes and minimize side effects (pharmacogenomics) requires the development and application of advanced computational and quantitative techniques. Students will develop computational skills to address contemporary genomic and statistical problems in a lab setting.

Rules & Requirements
Requisites: Prerequisites, BIOL 202, or BIOL 103 and BIOL 104 and BIOL 220 and BIOL 105L; and COMP 110 or COMP 116 or BIOL 226; or permission of the instructor for students lacking the prerequisites; Corequisite, BIOL 528.
Grading Status: Letter grade.

BIOL 529. Clinical and Counseling Aspects of Human Genetics. 3 Credits.
Topics in clinical genetics including pedigree analysis, counseling/ethical issues, genetic testing, screening, and issues in human research. Taught in a small group format. Active student participation is expected.

Rules & Requirements
Requisites: Prerequisite, BIOL 425; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Same as: GNET 635.

BIOL 532. Recent Discoveries in Molecular Biology. 3 Credits.
This course examines recent insights into molecular and cellular processes obtained through modern experimental approaches. Extensive reading of primary literature, discussed in a seminar format.

Rules & Requirements
Requisites: Prerequisites, BIOL 103, BIOL 104, and BIOL 220; or permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

BIOL 534. Mathematical Modeling in the Life Sciences. 3 Credits.
Requires some knowledge of computer programming. Model validation and numerical simulations using ordinary, partial, stochastic, and delay differential equations. Applications to the life sciences may include muscle physiology, biological fluid dynamics, neurobiology, molecular regulatory networks, and cell biology.

Rules & Requirements
Requisites: Prerequisites, MATH 383 and MATH 347 or MATH 577.
Grading Status: Letter grade.
Same as: MATH 564.

BIOL 535. Molecular Biology Techniques. 4 Credits.
Recommended preparation, BIOL 434. Experiments with bacterial phage, nucleic acid isolation and properties, recombinant DNA techniques, and DNA sequencing. Additional hours in laboratory will be necessary to complete assignments. Permission of the instructor.

Rules & Requirements
Requisites: Prerequisites, BIOL 103, BIOL 104, and BIOL 220; or permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

BIOL 537. Biotechnology and Synthetic Biology. 3 Credits.
Recent advances in biotechnology and synthetic biology, and their potential relevance to medicine, agriculture, and engineering. The course will include lectures, reading and discussions of papers from the primary literature, and student projects and presentations.

Rules & Requirements
Requisites: Prerequisites, BIOL 202; or BIOL 103, BIOL 104, and BIOL 220; or permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

BIOL 542. Light Microscopy for the Biological Sciences. 3 Credits.
Introduction to various types of light microscopy, digital and video imaging techniques, and their application in biological sciences. Permission of the instructor.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Requisites: Prerequisites, BIOL 205; or BIOL 103, BIOL 104, and BIOL 240; or permission of the instructor for students lacking the prerequisites; Corequisite, BIOL 542L.
Grading Status: Letter grade.

BIOL 542L. Light Microscopy for the Biological Sciences Lab. 1 Credits.
Light microscopy is at the core of molecular, cell and developmental biology research, and provides us with invaluable tools to investigate biological processes. This class covers light microscopy techniques currently used in research laboratories, from basic to cutting-edge, through hands-on experience on a variety of light microscopes. We will use a rail-based teaching microscope to illustrate basic light microscopy principles, as well as research-grade commercial microscopes.

Rules & Requirements
Requisites: Prerequisites, BIOL 205; or BIOL 103, BIOL 104, and BIOL 240; or permission of the instructor for students lacking the prerequisites; Corequisite, BIOL 542.
Grading Status: Letter grade.

BIOL 543. Cardiovascular Biology. 3 Credits.
An experimental approach to understanding cardiovascular development, function, and disease. It covers cardiovascular development (heart, blood vasculature, lymphatic vasculature) and cardiovascular function as linked to selected diseases. Focus on molecular, genetic, cell biological, and biochemical techniques used to study the cardiovascular system, with an emphasis on the genes and signaling pathways involved in cardiovascular development and disease. Most topics will be paired with a research paper from the primary literature. Honors version available.

Rules & Requirements
Requisites: Prerequisites, BIOL 205; or BIOL 103, BIOL 104, BIOL 220, and BIOL 240; or permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

BIOL 544L. Laboratory in Diseases of the Cytoskeleton. 3 Credits.
This laboratory course offers students the chance to engage in cutting-edge biochemical and cell biological research related to ongoing cytoskeletal research projects in the labs of two UNC faculty members. The course is composed of lectures and laboratory research. Students will become involved in all scientific processes: analysis of prior work, hypothesis generation and testing, data analysis and quantitation, and the presentation of data and conclusions.

Rules & Requirements

IDEAs in Action Gen Ed: FC-NATSCI or FC-QUANT, FC-LAB, RESEARCH.
Requisites: Prerequisites, BIOL 205; or BIOL 103, BIOL 104, and BIOL 240; or permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

BIOL 545. Exploring Brain, Gut, and Immunity. 3 Credits.
The course will explore topics that relate to how the brain and the gut communicate with one another. The course will also examine the connection between the brain-gut axis to the immune system and the microbiota at a molecular, cellular, and organismal level. Students will survey these emerging research topics and critically think, critique, and understand the experimental evidence for what we understand today about the gut and brain relationship. Honors version available.

Rules & Requirements
Requisites: Prerequisites, BIOL 205; or BIOL 103, and BIOL 104, and BIOL 220 or BIOL 240; or permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

BIOL 546. Biology of Aging. 3 Credits.
This course is designed for undergraduate or graduate students who are interested in understanding how aging is controlled at an advanced level. Emphasis will be placed on molecular and cellular mechanisms of aging in metazoans. Emphasis will also be placed on healthy aging and on how progress and discoveries are made in the field of aging. This course is based on scientific research or review papers and has no textbook.

Rules & Requirements
Requisites: Prerequisites, BIOL 205; or BIOL 103, BIOL 104, and BIOL 240; or permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

BIOL 547. Synaptic Plasticity: Analysis of Primary Literature. 3 Credits.
In this highly interactive, small-group course, we will read a series of scientific papers that elegantly demonstrate molecular events that are fundamental to synaptic plasticity, a key mechanism of learning and memory. Students will become familiar with this exciting neuroscience topic, and also learn how to interpret experimental data and read papers critically and objectively. We will also think about the future experiments suggested by each paper we read.

Rules & Requirements
Requisites: Prerequisites, BIOL 202; or BIOL 103, and BIOL 104, and BIOL 220 or BIOL 240; or permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

BIOL 551. Comparative Biomechanics. 3 Credits.
The structure and function of organisms in relation to the principles of fluid mechanics and solid mechanics.

Rules & Requirements
Requisites: Prerequisites, BIOL 103, BIOL 104, and either PHYS 114 or PHYS 118.
Grading Status: Letter grade.

BIOL 552. Behavioral Endocrinology. 3 Credits.
Undergraduates need permission of the instructor to enroll. The study of the interactions among hormones, the brain, and behavior from how hormones shape the development and expression of behaviors to how behavioral interactions regulate endocrine physiology.

Rules & Requirements
Requisites: Prerequisites, BIOL 103, BIOL 104, and BIOL 278.
Grading Status: Letter grade.

BIOL 553. Mathematical and Computational Models in Biology. 3 Credits.
This course introduces analytical, computational, and statistical techniques, such as discrete models, numerical integration of ordinary differential equations, and likelihood functions, to explore various fields of biology.

Rules & Requirements
Requisites: Prerequisites, (BIOL 201 and BIOL 202) or (BIOL 103 and BIOL 104); and MATH 231; and (MATH 232 or STOR 120 or STOR 155); or permission of the instructor for students lacking the prerequisites; Corequisite, BIOL 553L/MATH 553L.
Grading Status: Letter grade.

BIOL 553L. Mathematical and Computational Models in Biology Laboratory. 1 Credits.
This lab introduces analytical, computational, and statistical techniques, such as discrete models, numerical integration of ordinary differential equations, and likelihood functions, to explore various fields of biology.

Rules & Requirements
Requisites: Prerequisites, (BIOL 201 and 202) or BIOL 103 and BIOL 104); and MATH 231; and (MATH 232 or STOR 120 or STOR 155); or permission of the instructor for students lacking the prerequisites; Corequisite, BIOL 553/MATH 553.
Grading Status: Letter grade.

BIOL 554. Introduction to Computational Neuroscience. 3 Credits.
This course covers various mathematical tools and techniques for modeling the various elements and phenomena that comprise the nervous system and brain.

Rules & Requirements
Requisites: Prerequisites, BIOL 103 and BIOL 104; and BIOL 220 or BIOL 250; and MATH 231; and COMP 110 or COMP 116 or BIOL 226; or permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

BIOL 555. Paleobotany: An Introduction to the Past History of Plants. 3 Credits.
An introduction to the fossil record of plants, investigating how plants originated and changed through geological time to produce the modern flora. Both macrofossils and microfossils will be considered. Three lecture hours a week. Previously offered as GEOL 555.

Rules & Requirements
Requisites: Prerequisites, BIOL 103, BIOL 104, and either BIOL 250 or BIOL 271; or permission of the instructor for students lacking the prerequisites; Corequisite, BIOL 555L; permission of the instructor for students lacking the requisites.
Grading Status: Letter grade.
Same as: EMES 555.

BIOL 555L. Paleobotany: An Introduction to the Past History of Plants Laboratory. 1 Credits.
The laboratory involves learning how to locate, collect, prepare, and analyze fossil plants; it also provides fossils that illustrate topics covered in lecture. Students will be involved in field trips to fossil sites and museums to learn about fossil curation and display of fossils for public education. Three laboratory hours a week.

Rules & Requirements
Requisites: Prerequisites, BIOL 103, BIOL 104, BIOL 105L, and BIOL 250 or BIOL 271; or permission of the instructor for students lacking the prerequisites; Corequisite, BIOL 555.
Grading Status: Letter grade.

BIOL 561. Ecological Plant Geography. 3 Credits.
Description of the major vegetation types of the world including their distribution, structure, and dynamics. The principal causes for the distribution of plant species and communities, such as climate, soils, and history will be discussed.

Rules & Requirements
Requisites: Prerequisites, GEOG 110; or BIOL 103, 104, and 260; or permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

BIOL 562. Statistics for Environmental Scientists. 4 Credits.
Introduction to the application of quantitative and statistical methods in environmental science, including environmental monitoring, assessment, threshold exceedance, risk assessment, and environmental decision making.

Rules & Requirements
Requisites: Prerequisites, BIOL 103 and BIOL 104, and either STOR 120 or STOR 155; or permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.
Same as: ENEC 562.

BIOL 563. Statistical Analysis in Ecology and Evolution. 4 Credits.
Application of modern statistical analysis and data modeling in ecological and evolutionary research. Emphasis is on computer-intensive methods and model-based approaches. Familiarity with standard parametic statistics is assumed.

Rules & Requirements
Requisites: Prerequisites, BIOL 103, BIOL 104, MATH 231, and either STOR 120 or STOR 155; or permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.
Same as: ENEC 563.

BIOL 564. Population Ecology. 3 Credits.
Corequisite, BIOL 546L. Principles governing the phenomena of single and interacting populations are examined, from basic tenets to cutting-edge research questions. Population and community-level perspectives are integrated by drawing parallels between approaches and considering how to scale up from phenomena involving one or a few species to the structure and dynamics of whole communities. This course is intended for advanced undergraduate and beginning graduate students. Emphasis will be on theoretical concepts and corresponding mathematical approaches.

Rules & Requirements
Requisites: Prerequisites, BIOL 103 and BIOL 104, BIOL 260 recommended.
Grading Status: Letter grade.

BIOL 564L. Population Ecology Lab. 1 Credits.
Corequisite, BIOL 564. In this laboratory course, students will understand the assumptions and predictions of core models in population and community ecology (and in general terms, how the predictions are derived from the models), and the role of these models and others like them in the development and testing of the theory of populations and communities, i.e. in the "core ideas" of population and community ecology. Permission of the instructor for those lacking the prerequisites.

Rules & Requirements
Requisites: Prerequisites, BIOL 103 and BIOL 104, BIOL 260 recommended.
Grading Status: Letter grade.

BIOL 565. Conservation Biology. 3 Credits.
The application of biological science to the conservation of populations, communities, and ecosystems, including rare species management, exotic species invasions, management of natural disturbance, research strategies, and preserve design principles. Honors version available.

Rules & Requirements
Requisites: Prerequisites, BIOL 103, BIOL 104, and either BIOL 250 or BIOL 260; or permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

BIOL 567. Evolutionary Ecology. 3 Credits.
Advanced consideration of the evolution of form and function. May include issues in life-history evolution, evolutionary physiology, evolutionary morphology, and the evolution of complexity. Three lecture hours per week.

Rules & Requirements
Requisites: Prerequisites, BIOL 103, BIOL 104, and either BIOL 250 or BIOL 260; or permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

BIOL 568H. Disease Ecology and Evolution. 3 Credits.
Recommended preparation, one course above 400 in ecology or evolution. An advanced class covering the causes and consequences of infectious disease at the levels of whole organisms, populations, communities, and ecosystems. Previously offered as BIOL 568.

Rules & Requirements
Requisites: Prerequisites, BIOL 201 and MATH 231; or BIOL 103, BIOL 104, BIOL 260 and MATH 231; or permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

BIOL 579. Organismal Structure and Diversity in the Southern Appalachian Mountains. 4 Credits.
Permission of the instructor. An examination of the field biology of selected fungi, plants, or animals of the Appalachian Mountains. The morphology, taxonomy, ecology, life history, and behavior of the organisms will be explored both in the laboratory and in the field.

Rules & Requirements
Grading Status: Letter grade.

BIOL 590. Advanced Special Topics in Biology. 3 Credits.
Special topics in biology for advanced undergraduate students and graduate students.

Rules & Requirements
Repeat Rules: May be repeated for credit. 12 total credits. 4 total completions.
Grading Status: Letter grade.

BIOL 590L. Laboratory in Advanced Special Topics in Biology. 1 Credits.
Laboratory at an advanced level in special topics in biology. Students should have had considerable previous laboratory experience.

Rules & Requirements
Repeat Rules: May be repeated for credit. 2 total credits. 2 total completions.
Grading Status: Letter grade.

BIOL 602. Professional Development Skills for Ecologists and Biologists. 3 Credits.
The goal of this course is to help students who intend to become professional ecologists or biologists acquire critical skills and strategies needed for achieving their career goals.

Rules & Requirements
Grading Status: Letter grade.
Same as: ENEC 602.

BIOL 603. MiBio Seminar. 2 Credits.
This class is designed to 1) enhance students' ability to present scientific material to their peers in a comprehensive, cohesive manner, 2) familiarize students with scientific concepts and technologies used in multiple disciplines, 3) expose students to cutting edge research, 4) prepare students to gain substantial meaning from seminars and to ask questions, and 5) enhance students' ability to evaluate scientific papers and seminars.

Rules & Requirements
Grading Status: Letter grade.
Same as: BIOC 603, CBPH 603, GNET 603.

BIOL 604. Laboratory Practices for New Investigators. 1 Credits.
Required preparation, participation in an ongoing laboratory research project. Permission of the instructor. A seminar course designed to introduce students to approaches and methods needed in carrying out an independent research project in a particular focus area of biology. For advanced undergraduates and graduate students.

Rules & Requirements
Repeat Rules: May be repeated for credit. 2 total credits. 2 total completions.
Grading Status: Letter grade.

BIOL 605. Reading and Writing Scientific Literature. 1 Credits.
A seminar course designed to introduce students to how to read and write scientific papers. For advanced undergraduates and graduate students.

Rules & Requirements
Requisites: Prerequisite, BIOL 201 or 202.
Repeat Rules: May be repeated for credit. 2 total credits. 2 total completions.
Grading Status: Letter grade.

BIOL 620. Bacterial Genetics with Emphasis on Pathogenic and Symbiotic Interactions. 3 Credits.
Molecular genetics of bacteria. The emphasis will be on pathogenic and symbiotic interactions of bacteria with eukaryotes, although other aspects of bacterial genetics will be considered.

Rules & Requirements
Requisites: Prerequisites, BIOL 103, BIOL 104, and one of BIOL 220, MCRO 251, or EMES 204; or permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

BIOL 621. Principles of Genetic Analysis I. 3 Credits.
Genetic principles of genetic analysis in prokaryotes and lower eukaryotes.

Rules & Requirements
Requisites: Prerequisite, BIOL 202 or BIOL 220; or permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Same as: GNET 621.

BIOL 622. Principles of Genetic Analysis II. 4 Credits.
Principles of genetic analysis in higher eukaryotes; genomics.

Rules & Requirements
Requisites: Prerequisite, BIOL 621.
Grading Status: Letter grade.
Same as: GNET 622.

BIOL 624. Developmental Genetics. 3 Credits.
Permission of the instructor for undergraduates. Genetic and molecular control of plant and animal development. Extensive reading from primary literature.

Rules & Requirements
Grading Status: Letter grade.
Same as: GNET 624.

BIOL 625. Seminar in Genetics. 2 Credits.
Permission of the instructor for undergraduates. Current and significant problems in genetics. May be repeated for credit.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 6 total completions.
Grading Status: Letter grade.
Same as: GNET 625.

BIOL 631. Advanced Molecular Biology. 4 Credits.
This course explores cutting edge research in molecular biology -- the investigation at molecule-scale of the mechanisms behind life. We briefly review core-principles in molecular biology, then investigate more recent research that extends or overturns these core principles.

Rules & Requirements
Requisites: Prerequisites, BIOL 202, or BIOL 220, or CHEM 430, and permission of the course director.
Grading Status: Letter grade.
Same as: GNET 631, BIOC 631, MCRO 631.

BIOL 632. Advanced Molecular Biology II. 3 Credits.
Required preparation for undergraduates, at least one undergraduate course in both biochemistry and genetics. The purpose of this course is to provide historical, basic, and current information about the flow and regulation of genetic information from DNA to RNA in a variety of biological systems. Three lecture hours a week.

Rules & Requirements
Grading Status: Letter grade.
Same as: GNET 632, BIOC 632, MCRO 632.

BIOL 635. Careers in Biotechnology. 1 Credits.
This seminar course will provide graduate and advanced undergraduate students information on career opportunities and culture in the field of biotechnology. The instructor and guest lecturers will present examples of global challenges addressed by modern biotechnology, and how research and development are carried out in the industry. Students will develop and present their own plan for a new biotechnology venture. Does not count within the Biology major or minor.

Rules & Requirements
Grading Status: Pass/Fail.

BIOL 639. Seminar in Plant Molecular and Cell Biology. 1 Credits.
Permission of the instructor. May be repeated for credit. Current and significant problems in plant molecular and cell biology are discussed in a seminar format. Can count as BIOL elective credit in the major if combined with other 600-level courses for a total of three credit hours.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 12 total completions.
Grading Status: Letter grade.

BIOL 642. Advanced Studies of Cell Division. 3 Credits.
An advanced course in cell and molecular biology integrating genetic, biochemical, and structural aspects of the cell cycle. Principles derived from a variety of biological systems. Extensive reading of classic papers as well as recent literature.

Rules & Requirements
Requisites: Prerequisite, BIOL 205 or BIOL 240; or permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

BIOL 648. Palynology. 5 Credits.
Permission of the instructor. A consideration of various aspects of palynology, including the morphology, structure, development, systematics, evolution, preparation techniques, and analysis of living and fossil pollen grains, spores, and other palynomorphs. Two lecture and six laboratory hours a week.

Rules & Requirements
Grading Status: Letter grade.

BIOL 649. Seminar in Cell Biology. 2 Credits.
May be repeated for credit. Can count as BIOL elective credit in the major if combined with other 600-level courses for a total of three credit hours.

Rules & Requirements
Requisites: Prerequisite, BIOL 205 or BIOL 240; or permission of the instructor for students lacking the prerequisite.
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 6 total completions.
Grading Status: Letter grade.

BIOL 650. Animal Cognition. 3 Credits.
For advanced undergraduates and graduate students. The goal of the course is to gain an in-depth understanding of animal cognition in the context of evolution and neurobiology with an emphasis on recent research.

Rules & Requirements
Grading Status: Letter grade.

BIOL 657. Biological Oceanography. 4 Credits.
For undergraduate (juniors and seniors) and graduate students. Marine ecosystem processes pertaining to the structure, function, and ecological interactions of biological communities; management of biological resources; taxonomy and natural history of pelagic and benthic marine organisms. Three lecture and recitation hours per week. One mandatory weekend field trip. Course previously offered as MASC 504.

Rules & Requirements
Grading Status: Letter grade.
Same as: EMES 507, ENVR 520.

BIOL 659. Seminar in Evolutionary Biology. 2 Credits.
Permission of the instructor. Advanced studies in evolutionary biology. Can count as BIOL elective credit in the major if combined with other 600-level courses for a total of three credit hours.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 6 total completions.
Grading Status: Letter grade.

BIOL 661. Plant Ecology. 4 Credits.
Consideration of terrestrial, vascular plant ecology including environmental physiology, population dynamics, and community structure. Laboratory stresses collection and interpretation of field data. Three lecture and three laboratory hours a week.

Rules & Requirements
Requisites: Prerequisite, BIOL 260; or permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

BIOL 669. Seminar in Ecology. 1-3 Credits.
May be repeated for credit.

Rules & Requirements
Requisites: Prerequisite, BIOL 201 or BIOL 260; or permission of the instructor for students lacking the prerequisite.
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 12 total completions.
Grading Status: Letter grade.
Same as: ENEC 669.

BIOL 680. Advanced Seminar in Recent Biological Research and Methods. 1 Credits.
Permission of the instructor. The course will cover topics and experimental approaches of current interest. Students will learn intellectual and practical aspects of cutting-edge topics in biology. It will meet for one hour per week, in a lecture and discussion format.

Rules & Requirements
Repeat Rules: May be repeated for credit. 3 total credits. 3 total completions.
Grading Status: Letter grade.

BIOL 690. Advanced Special Topics with an Emphasis on Recent Research. 3 Credits.
Permission of the instructor. Special topics in biology with an emphasis on recent research. For advanced undergraduates and graduate students.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

BIOL 692H. Senior Honors Thesis in Biology. 3 Credits.
Preparation of a written and oral presentation of honors thesis research. Research must continue in the same laboratory used in BIOL 395. Senior biology majors only (first or second majors). Required of all candidates for Highest Honors or Honors. Can be taken in either the fall or spring semester of their senior year. Approval of the Biology Honors Director required. Permission of a faculty research director and three credit hours of BIOL 395 in the same laboratory required.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH, COMMBEYOND.
Grading Status: Letter grade.

Graduate-level Courses

The stated prerequisites should be interpreted to read "or equivalent" and may be waived by the course instructor for students who are adequately prepared.

Courses numbered 900 and above are designed for applicants for advanced degrees. Each course requires permission of the instructor or the research director. Each may be repeated for two or more semesters for credit.

BIOL 701. Overview of Biology. 1-2 Credits.
Biology faculty will present individual research presentations followed by discussion.

Rules & Requirements
Grading Status: Letter grade.

BIOL 702. Student Seminars. 1 Credits.
Required of all candidates for the degree in genetics. A course to provide public lecture experience to advanced genetics students. Students present personal research seminars based on their individual dissertation projects. Lectures are privately critiqued by fellow students and genetics faculty.

Rules & Requirements
Grading Status: Letter grade.
Same as: GNET 702.

BIOL 703. Recent Advances in Biology. 1-3 Credits.
A consideration of the methods and literature involved in the latest advances in selected areas of biology.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

BIOL 704. Seminars in Biophysics. 2 Credits.
Permission of the instructor. Students present seminars coordinated with the visiting lecturer series of the Program in Molecular and Cellular Biophysics.

Rules & Requirements
Grading Status: Letter grade.
Same as: BIOC 704.

BIOL 705. Best Practices for Rigor and Reproducibility in Research. 1 Credits.
A workshop to introduce best practices for increasing rigor and reproducibility in research. Permission of course directors required.

Rules & Requirements
Grading Status: Letter grade.
Same as: BBSP 705.

BIOL 711. Genetic Lecture Series. 1 Credits.
Diverse but current topics in all aspects of genetics. Relates new techniques and current research of notables in the field of genetics.

Rules & Requirements
Grading Status: Letter grade.
Same as: GNET 701.

BIOL 713. Student Seminars. 1 Credits.
Required of all candidates for the degree in genetics. A course to provide public lecture experience to advanced genetics students. Students present personal research seminars based on their individual dissertation projects. Lectures are privately critiqued by fellow students and genetics faculty.

Rules & Requirements
Grading Status: Letter grade.
Same as: GNET 703.

BIOL 758. Molecular Population Biology. 4 Credits.
Hands-on training, experience, and discussion of the application of molecular genetic tools to questions of ecology, evolution, systematics, and conservation.

Rules & Requirements
Requisites: Prerequisite, BIOL 471; Permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.
Same as: EMES 742.

BIOL 801. Seminar in Biological Sciences. 1-2 Credits.
Permission of the instructor. Advanced seminar in interdisciplinary biological sciences.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

BIOL 810. Seminar in College Science Teaching. 2 Credits.
This interactive course will help graduate students develop the knowledge and skills needed to implement student-centered science instruction at the university level. Participants will support one another in creating a teachable unit, a personal teaching philosophy statement, and a course syllabus.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

BIOL 829. Seminar in Quantitative Biology. 1-3 Credits.
Permission of the instructor. Advanced seminar in quantitative biology.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

BIOL 831. Seminar in Insect Physiology, Biochemistry, and Endocrinology. 1-2 Credits.
Permission of the instructor. Advanced seminar in insect physiology, biochemistry, and endocrinology.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

BIOL 832. Seminar in Molecular Biology. 1-2 Credits.
Advanced seminar in molecular biology.

Rules & Requirements
Requisites: Prerequisite, BIOL 202; permission of the instructor for students lacking the prerequisite.
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

BIOL 841. Seminar in Embryology. 1-2 Credits.
Advanced seminar in embryology.

Rules & Requirements
Requisites: Prerequisite, BIOL 205; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

BIOL 842. Seminar in Cell Biology and Biochemistry. 1-2 Credits.
Permission of the instructor. Advanced seminar in cell biology and biochemistry.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

BIOL 845. Advanced Seminar in Neurobiology. 2 Credits.
Advanced seminar in Neurobiology. Students should have previous experience in Neurobiology courses or research.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 6 total credits. 3 total completions.
Grading Status: Letter grade.

BIOL 852. Seminar in Plant Systematics. 1-2 Credits.
Permission of the instructor. Advanced seminar in plant systematics.

Rules & Requirements
Grading Status: Letter grade.

BIOL 853. Seminar in Plant Morphology and Anatomy. 1-2 Credits.
Permission of the instructor. Advanced seminar in plant morphology and anatomy.

Rules & Requirements
Grading Status: Letter grade.

BIOL 854. Seminar in Neurophysiology. 1-2 Credits.
Permission of the instructor. Advanced seminar in neurophysiology. May be repeated for credit.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

BIOL 855. Seminar in Invertebrate Zoology. 1-2 Credits.
Advanced seminar in invertebrate zoology. May be repeated for credit.

Rules & Requirements
Requisites: Prerequisite, BIOL 475; permission of the instructor for students lacking the prerequisite.
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

BIOL 856. Seminar in Vertebrate Evolutionary Biology. 1-2 Credits.
Permission of the instructor. Advanced seminar in vertebrate evolutionary biology. May be repeated for credit.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

BIOL 857. Seminar in Comparative Animal Behavior. 1-2 Credits.
Permission of the instructor. Advanced seminar in comparative animal behavior. May be repeated for credit.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.
Same as: NBIO 857.

BIOL 858. Seminar in Comparative Physiology. 1-2 Credits.
Advanced seminar in comparative physiology.

Rules & Requirements
Requisites: Prerequisite, BIOL 451; permission of the instructor for students lacking the prerequisite.
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.
Same as: NBIO 858.

BIOL 859. Seminar in Marine Biology. 1-2 Credits.
Permission of the instructor. Advanced seminar in marine biology. May be repeated for credit.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

BIOL 861. Statistical Analysis in Ecology and Evolution using R. 1 Credits.
Graduate standing in biology, ecology or genetics required. Introduction to statistical analysis and modeling of ecological and evolutionary data using the R programming environment.

Rules & Requirements
Requisites: Prerequisite, STOR 155.
Grading Status: Letter grade.

BIOL 890. Special Topics in Biology. 1-2 Credits.
Permission of the instructor. Consideration of special topics in biology. May be repeated once for credit.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

BIOL 891. Graduate Seminar in Biology. 2 Credits.
Graduate standing or permission of the instructor. This course will increase students' intellectual depth across the fields of ecology, evolution, and organismal biology (EEOB). Students will read and discuss papers, attend seminars, and present research ideas. Required of all candidates for the degree in biology in the EEOB graduate program.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

BIOL 892. Special Topics in Biology for Graduate Students. 1-4 Credits.
This course is designed to allow graduate students to explore areas of biology outside their direct area of specialization. Three credits lecture only. Four credits lecture and lab.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

BIOL 901. Introduction to Graduate Research. 1-15 Credits.
Graduate research for six weeks in two laboratories. Designed primarily to acquaint first-year students with research techniques and to assess their propensity for research. Arranged by mutual agreement of students and faculty members during fall orientation. May be repeated once for credit. Six to nine hours per week.

Rules & Requirements
Grading Status: Letter grade.

BIOL 921. Research in Genetics. 1-15 Credits.
May be repeated for credit.

Rules & Requirements
Grading Status: Letter grade.
Same as: GNET 905.

BIOL 931. Research in Molecular Biology. 1-15 Credits.
Acquaints early career graduate students with research techniques and assesses their propensity for research. Arranged by mutual agreement of student and faculty member.

Rules & Requirements
Grading Status: Letter grade.

BIOL 932. Research in Plant Molecular Biology. 1-15 Credits.
Acquaints early career graduate students with research techniques and assesses their propensity for research. Arranged by mutual agreement of student and faculty member.

Rules & Requirements
Grading Status: Letter grade.

BIOL 941. Research in Cytology and Cell Biology. 1-15 Credits.
Acquaints early career graduate students with research techniques and assesses their propensity for research. Arranged by mutual agreement of student and faculty member.

Rules & Requirements
Grading Status: Letter grade.

BIOL 942. Research in Embryology. 1-15 Credits.
Acquaints early career graduate students with research techniques and assesses their propensity for research. Arranged by mutual agreement of student and faculty member.

Rules & Requirements
Grading Status: Letter grade.

BIOL 943. Research in Physiology: Cellular, Comparative, Neurophysiology. 1-15 Credits.
Acquaints early career graduate students with research techniques and assesses their propensity for research. Arranged by mutual agreement of student and faculty member.

Rules & Requirements
Grading Status: Letter grade.

BIOL 951. Research in Neurobiology. 3-12 Credits.
Permission of the department. Research in various aspects of neurobiology. Six to 24 hours a week.

Rules & Requirements
Grading Status: Letter grade.
Same as: NBIO 951, PHCO 951.

BIOL 952. Research in Ethology and Animal Behavior. 1-15 Credits.
Acquaints early career graduate students with research techniques and assesses their propensity for research. Arranged by mutual agreement of student and faculty member.

Rules & Requirements
Grading Status: Letter grade.

BIOL 954. Research in Marine Sciences on Mollusca, Crustacea, Ichthyology, or Oceanography. 1-15 Credits.
Permission of the department. At the Institute for Marine Sciences, Morehead City, NC.

Rules & Requirements
Grading Status: Letter grade.

BIOL 955. Research in Vertebrate or Invertebrate Zoology. 1-15 Credits.
Acquaints early career graduate students with research techniques and assesses their propensity for research. Arranged by mutual agreement of student and faculty member.

Rules & Requirements
Grading Status: Letter grade.

BIOL 957. Research in Plant Systematics. 1-15 Credits.
Acquaints early career graduate students with research techniques and assesses their propensity for research. Arranged by mutual agreement of student and faculty member.

Rules & Requirements
Grading Status: Letter grade.

BIOL 958. Research in Plant Morphology and Anatomy. 1-15 Credits.
Acquaints early career graduate students with research techniques and assesses their propensity for research. Arranged by mutual agreement for student and faculty member.

Rules & Requirements
Grading Status: Letter grade.

BIOL 959. Research in Paleobotany. 1-15 Credits.
Acquaints early career graduate students with research techniques and assesses their propensity for research. Arranged by mutual agreement of student and faculty member.

Rules & Requirements
Grading Status: Letter grade.

BIOL 961. Research in Ecology. 1-15 Credits.
Acquaints early career graduate students with research techniques and assesses their propensity for research. Arranged by mutual agreement of the student and faculty member.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

BIOL 992. Master's (Non-Thesis). 3 Credits.
Course for graduate students expecting to receive the degree of Master of Arts in Biology.

Rules & Requirements
Repeat Rules: May be repeated for credit.

BIOL 993. Master's Research and Thesis. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

BIOL 994. Doctoral Research and Dissertation. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

Contact Information

Department of Biology
Visit Program Website (http://bio.unc.edu)

Department Chair
Robert Duronio

Director of Graduate Studies
Sophie McCoy
somc@email.unc.edu

DEPARTMENT OF BIOMEDICAL ENGINEERING (GRAD)

Introduction

The Lampe Joint Department of Biomedical Engineering Graduate Program is administered by the combined biomedical engineering graduate faculty from both North Carolina State University and University of North Carolina at Chapel Hill. The joint program also has close working relations with the Research Triangle Institute and industry within the Research Triangle area. These associations enable students to obtain research training in a wide variety of fields and facilitate the selection and performance of dissertation research. Thus, the department, provides students with excellent opportunities to realize the goal of enhancing medical care through the application of modern technology.

Biomedical engineering is a dynamic field stressing the application of engineering techniques and mathematical analysis to biomedical problems. Faculty research programs are key to the program, and they include five primary research directions: rehabilitation engineering, regenerative medicine, biomedical imaging, biomedical microdevices, and pharmacoengineering. The department offers graduate education in biomedical engineering leading to the master of science (M.S.) and doctor of philosophy (Ph.D.) degrees.

Students typically enter this program with backgrounds in engineering, physical science, mathematics, or biological science. Curricula are tailored to fit the needs and develop the potential of individual students. In addition, courses in statistics, mathematics, life sciences, and engineering provide a well-rounded background of knowledge and skills.

Admission Requirements

Students must satisfy all entrance requirements for The Graduate School of the University of North Carolina at Chapel Hill or the Graduate School at North Carolina State University, and must demonstrate interest and capability commensurate with the quality of the biomedical engineering program. Prospective students may apply to the graduate school at either UNC–Chapel Hill or NC State. All applicants are considered together as a group. Generally, applications should be submitted by December 12 for consideration for admission in the coming fall semester. Students are no longer required to submit their GRE scores. Admitted students are expected to have an average grade of B (cumulative GPA 3.30) or better and are encouraged to have undergraduate research experience. The program requires that a one-to-three page personal statement about research interest and background be submitted.

Students should have a good working knowledge of mathematics at least through differential equations, plus two years of physical or engineering science and basic courses in biological science. Deficiencies in preparation can be made up in the first year of graduate training.

Doctoral Degree Requirements

A minimum of 52 semester hours of graduate work is required (beyond the bachelor's degree). Degree candidates in this program are expected to obtain experience working in a research laboratory during their residence and to demonstrate proficiency in research. The Ph.D. dissertation should be judged by the graduate committee to be of publishable quality. The student must meet the Graduate School's residency requirement at UNC-CH or NC State as appropriate. Further information on the BME Ph.D. program can be found on the department website (https://bme.unc.edu/graduate/doctor-of-philosophy/).

Required and Highly Recommended Courses

Students must complete six credits of graduate engineering topics, six credits of graduate life science topics, three credits of engineering mathematics, and three credits of statistics. Nine credits of technical electives are also required. Students may choose from a number of courses to meet these requirements. Such choices are made in consultation with the student's academic advisor and the Director of Graduate Programs/Studies.

Students are required to take a BME Seminar each semester which is offered at both UNC-CH and NC State. Students must also complete a Mentored Teaching Experience and a Professional Development Seminar.

Comprehensive and Qualifying Examinations

Doctoral students qualify for the Ph.D. degree by meeting grade requirements in their core courses, and then advance on to written and oral preliminary exams before admission to candidacy. Details can be found on the department website (https://bme.unc.edu/graduate/doctor-of-philosophy/).

Degrees

- Biomedical Engineering (M.S.): MedTech Innovation and Entrepreneurship Concentration (https://catalog.ncsu.edu/graduate/engineering/biomedical-engineering/biomedical-engineering-ms-translation-innovation-entrepreneurship-concentration/)
- Biomedical Engineering (Ph.D.) (https://catalog.ncsu.edu/graduate/engineering/biomedical-engineering/biomedical-engineering-phd/)
- Biomedical Engineering (Minor) (https://catalog.ncsu.edu/graduate/engineering/biomedical-engineering/biomedical-engineering-minor/)

Biomedical Engineering, Master's Degree (M.S.)

The M.S. Biomedical Engineering Program in MedTech Innovation + Entrepreneurship is an 11-month (early June to early May) program for students interested in acquiring the skills necessary to lead biomedical-related early-stage ventures or to drive new product development in healthcare industries. Our curriculum utilizes clinical immersion to identify healthcare innovation opportunities, teaches path-to-market concepts, including regulatory aspects unique to medical devices and pharmaceuticals and facilitates the development of commercialization strategies for innovative biomedical technologies. Students receive mentorship from biotech entrepreneurs, legal scholars and venture partners.

Course Requirements

Code	Title	Hours
Core Courses		**18**
BME 501 (NCSU)		4
BME 502 (NCSU)		4
BME 503 (NCSU)		4
BME 504 (NCSU)		3
BEC 575 (NCSU)		3

Electives		**12**
Engineering/technical course		3
Entrepreneurship courses		9
Students may choose from the following courses:		
BME 650 (NCSU, Internship)		
MBA 576 (NCSU)		
MBA 577 (NCSU)		
GRAD 718	Start the Startup: Bringing Ideas to Market (UNC)	
GRAD 755	Fundamentals of Technology Commercialization (UNC)	
Students may also take other courses in the Poole College of Management at NC State or the Kenan-Flagler Business School at UNC-Chapel Hill if approved by the Program Director.		
Thesis/Substitute or Dissertation		**3**
BMEJ 701	BIOMED ENG-JOINT PROG(G)	
Minimum Hours		**30**

Milestones:

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 27) for more information.

- Master's Committee
- Master's Oral Exam/Approved Exam Substitute
- Thesis Substitute
- Residence Credit
- Master's Exit Survey
- Master's Research Presentation

Biomedical Engineering, Doctoral Degree (Ph.D.)

The Joint Department of Biomedical Engineering Graduate Program is administered by the combined biomedical engineering graduate faculty from both North Carolina State University and the University of North Carolina at Chapel Hill. The joint program also has close working relations with the Research Triangle Institute and industry within the Research Triangle area. These associations enable students to obtain research training in a wide variety of fields and facilitate the selection and performance of dissertation research. Thus, the department provides students with excellent opportunities to realize the goal of enhancing medical care through the application of modern technology.

Biomedical engineering is a dynamic field stressing the application of engineering techniques and mathematical analysis to biomedical problems. Faculty research programs are key to the program, and they include five primary research directions: rehabilitation engineering, regenerative medicine, biomedical imaging, biomedical microdevices, and pharmacoengineering. The department offers graduate education in biomedical engineering leading to the Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) degrees.

Students typically enter this program with backgrounds in engineering, physical science, mathematics, or biological science. Curricula are tailored to fit the needs and develop the potential of individual students. In addition, courses in statistics, mathematics, life sciences, and engineering provide a well-rounded background of knowledge and skills.

Doctoral students qualify for the Ph.D. degree by meeting grade requirements in their core courses and then advancing to written and oral preliminary exams before admission to candidacy. Details can be found on the department's website. Degree candidates in this program are expected to obtain experience working in a research laboratory during their residence and to demonstrate proficiency in research. The Ph.D. dissertation should be judged by the graduate committee to be of publishable quality.

Course Requirements

Code	Title	Hours
Core Courses		
BIOL 451	Comparative Physiology (or alternatives at NC State)	3
BIOS 600	Principles of Statistical Inference	3
or BIOS 650	Basic Elements of Probability and Statistical Inference I	
BMME 890	Special Topics [1]	3
BMME 890	Special Topics [2]	3
BMME 890	Special Topics [3]	8
MATH 528	Mathematical Methods for the Physical Sciences I	3
or MATH 535	Introduction to Probability	
BME 885 (NC State-based course) Mentored Teaching Experience		3
Engineering Course		**6**
Select 510-590 level or 700 level BME/BMME courses or other 500/700 level from the list in the handbook or approved in conjunction with the program advisor and director of graduate programs.		
Electives		**9**
Select a minimum of three 500-700 level courses from the list in the graduate handbook or approved alternatives. [4]		
Thesis/Substitute or Dissertation Course		
BMME 994	Doctoral Research and Dissertation [5]	6
Minimum Hours		**52**

1. Students should register for section 007, Professional Development Seminar.
2. Students should register for section 019, Biochemistry Seminar.
3. Students must register for BMME 890.001 each semester except for the semester students defend their dissertation.
4. Students may take 500-700 level courses at UNC or students may take 500-level or 700-level courses at NC State.
5. Students must take BMME 994 twice for a minimum of 6 credit hours.

Milestones

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 27) for more information.

- Doctoral Committee
- Doctoral Oral Comprehensive Exam
- Doctoral Written Exam
- Prospectus Oral Exam
- Dissertation Defense
- Doctoral Dissertation Approved/Format Accepted

- Residence Credit
- Doctoral Exit Survey

Recommended Checklist

Students can review a recommended checklist here (https://docs.google.com/document/d/1CEStdQJ4D-_PzdzA88JRNQZP85uvGBg1/edit/).

Department Chair

Paul Dayton

Associate Chairs

Lianne Cartee, Associate Chair for Education
Shawn Gomez, Associate Chair for Research

Directors

Lianne Cartee, Director of Undergraduate Studies
Matthew Fisher, Director of Graduate Studies

Associate Director

Naji Husseini, Associate Director of Undergraduate Studies

Distinguished Professors

Lianne Cartee, Alumni Distinguished Undergraduate Professor
Paul Dayton, William R. Kenan Jr. Distinguished Professor
Greg M. Forest, Grant Dahlstrom Distinguished Professor
Harvinder Gill, Ronald B. and Cynthia J. McNeill Term Professor
He (Helen) Huang, Jackson Family Distinguished Professor
H. Troy Nagle
Roger Narayan
Koji Sode, William R. Kenan Jr. Distinguished Professor
George (Rick) Stouffer, Ernest and Hazel Craige Distinguished Professor

Professors

Lianne Cartee
Michael Daniele
Paul Dayton
Greg M. Forest
Caterina Gallippi
Harvinder Gill
Shawn Gomez
Helen Huang
Leaf Huang
Derek Kamper
Weili Lin
Scott Magness
H. Troy Nagle
Roger Narayan
J. Michael Ramsey
Koji Sode
George (Rick) Stouffer
David Zaharoff

Associate Professors

Rahima Benhabbour
Ashley Brown
Yevgeny Brudno
Jacqueline Cole
Bob Dennis
Brian Diekman
Kenneth Donnelly
Uzay Emir
Oleg Favorov
Matthew Fisher
Jason Franz
Donald Freytes
Michael Gamcsik
David Hill
Devin Hubbard
Naji Husseini
David Lalush
Jeffrey Macdonald
Ross Petrella
Gianmarco Pinton
Nitin Sharma
Mark Tommerdahl
Anka Veleva
Bruce Wiggin

Assistant Professors

Amy Adkins
Wen Yih Aw
Joseph Burclaff
Silvia Ceballos
Phillip Durham
Alon Greenbaum
Geoffrey Handsfield
Kennita Johnson
I-Chieh Lee
Wesley Legant
Ming Liu
Margo MacDonald
Varun Nalam
Virginie Papadopopoulou
William Polacheck
Hayley Richardson
Francisco Santibanez
Sarah Shelton
Cameron Taylor
James Tsuruta
Michael Wilkins
Amol Yadav

Professors Emeriti

Frank Abrams
Albert Banes
Carol Lucas
J. Michael Ramsey

Professor of the Practice

Matthew Penny

Lecturers

Sidhartha Jandhyala
Nick Jardine

BMME

Advanced Undergraduate and Graduate-level Courses

BMME 435. Biological Physics. 3 Credits.
How diffusion, entropy, electrostatics, and hydrophobicity generate order and force in biology. Topics include DNA manipulation, intracellular transport, cell division, molecular motors, single molecule biophysics techniques, nerve impulses, neuroscience.

Rules & Requirements
Requisites: Prerequisites, PHYS 116 and 117, or PHYS 118 and 119.
Grading Status: Letter grade.
Same as: PHYS 405, BIOL 431.

BMME 441. Thermal Physics. 3 Credits.
Equilibrium statistical mechanics; the laws of thermodynamics, internal energy, enthalpy, entropy, thermodynamic potentials, Maxwell's relations.

Rules & Requirements
Requisites: Prerequisites, MATH 233, and PHYS 117 or 119; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.
Same as: PHYS 441.

BMME 495. Undergraduate Research in Biomedical Engineering as a Technical Elective. 3 Credits.
Opportunity for hands-on faculty mentored research project in biomedical engineering. Approved plan of work required with significant independent research culminating in a final paper and presentation at an appropriate venue. Departmental approval required. Course may not be repeated. Permission of department.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

BMME 511. Genetic Engineering. 3 Credits.
The course introduces the engineering principles used to modify cells in a variety of biomedical applications. The format includes lectures, discussion of primary research literature, and application of engineering design principles through student projects. The goals are to 1) discuss genome editing technologies, 2) evaluate strategies for cellular reprogramming and directed differentiation of stem cells, and 3) illustrate how genetic modification can be harnessed for cellular therapy and research applications such as animal models.

Rules & Requirements
Requisites: Prerequisites, BMME 301 or BMME 302; and BMME 315 or BMME 325 or CHEM 430; recommended BMME 420 or BIOL 202.
Grading Status: Letter grade.

BMME 521. Introduction to Synthetic Biology. 3 Credits.
This course provides an introduction to the ideas and methodologies in the field of synthetic biology. Lectures focus on fundamental concepts in molecular biology and engineering as applied to biological system design. The laboratory portion of the course provides hands-on application of fundamental techniques in synthetic biology research. Previously offered as BMME 420. Majors only.

Rules & Requirements
Requisites: Pre- or corequisites, BMME 325 or CHEM 430; and BMME 335.
Grading Status: Letter grade.

BMME 523. Biomolecular Engineering. 3 Credits.
This course introduces the use and creation of biomolecules for biomedical applications to foster the development of a mission oriented research plan to create engineered biomolecules for biomedical applications. Students will search, prepare, evaluate, design, and simulate biomolecules through lectures on the basic chemical and structural properties of biomolecules, exploiting varieties of biomolecules, practical methods to engineer biomolecules, and development of a student research plan. BME students only.

Rules & Requirements
Requisites: Prerequisite, BMME 325 or CHEM 430.
Grading Status: Letter grade.

BMME 524. Biomolecular Sensing Technologies. 3 Credits.
This course introduces the science and technology of biomolecular sensing technologies, the essence of biosensors, and biochemical and immunological in vitro/in vivo diagnostic devices. The focus of the class is biomolecules (enzymes, antibodies, binding proteins, receptors, aptamers, molecularly imprinted polymers, etc.), bioelectronics and biochemical principles employed in biosensor development. Majors only.

Rules & Requirements
Requisites: Prerequisite, BMME 325 or CHEM 430; recommended BMME 420 or BMME 511.
Grading Status: Letter grade.

BMME 527. Targeted Photomedicine. 3 Credits.
This course will introduce students to fundamental concepts and engineering approaches in targeted photomedicine, particularly for the treatment of cancer. Students will review and present research articles on emerging applications of photomedicine. The major deliverable will be an NIH-style research proposal, based on lecture material and a literature review, to help students gain an understanding of advancements in targeted photomedicine.

Rules & Requirements
Requisites: Prerequisites, BMME 325 or CHEM 430; and BMME 301 or 302.
Grading Status: Letter grade.

BMME 543. Biomechanics of Movement. 3 Credits.
This course provides an overview of musculoskeletal anatomy, and of the mechanical behavior of biological tissues and biological systems. Students learn to apply fundamental principles of mechanics to analyze movement in humans and other animals. Applications in rehabilitation and orthopedics are emphasized. Previously offered as BMME 405 and BMME 503.

Rules & Requirements
Requisites: Prerequisites, BMME 160, or 205, and MATH 383.
Grading Status: Letter grade.

BMME 550. Medical Imaging I: Ultrasonic, Optical, and Magnetic Resonance Systems. 3 Credits.
Physical and mathematical foundations of ultrasonic, optical, and magnetic resonance imaging systems in application to medical diagnostics. Each imaging modality is examined, highlighting critical system characteristics: underlying physics of the imaging system, including mechanisms of data generation and acquisition; image creation; and relevant image processing methods, such as noise reduction.

Rules & Requirements
Requisites: Prerequisites, BIOS 550 and PHYS 128.
Grading Status: Letter grade.

BMME 551. Medical Device Design I. 3 Credits.
Student multidisciplinary teams work with local medical professionals to define specific medical device concepts for implementation.

Rules & Requirements
Grading Status: Letter grade.

BMME 552. Medical Device Design II. 3 Credits.
Device prototypes designed in the first course in series. Good manufacturing practices; process validation; FDA quality system regulations; design verification and validation; regulatory approval planning; and intellectual property protection.

Rules & Requirements
Grading Status: Letter grade.

BMME 553. Applied Instrumentation for Movement Analysis. 3 Credits.
The goal of this course is twofold. First, this course will provide hands-on experience with state-of-the-art technologies in the field of movement analysis, with a focus on musculoskeletal ultrasound, electromyography, markerless motion capture, and inertial measurement units. Second, this course will provide fundamental training in the professional skills needed to successfully integrate those technologies into practice, to include critical evaluation of literature, hypothesis generation, and data analytics and visualization. The course will also strive to invite guest lectures to reinforce principles on applying these technologies to real-world areas of inquiry.

Rules & Requirements
Requisites: Prerequisite, BMME 302.
Grading Status: Letter grade.

BMME 555. Biofluid Mechanics. 3 Credits.
This course introduces students to basics of fluid mechanics (steady and pulsatile flows, laminar and turbulent flows, and Newtonian and non-Newtonian flows). Students learn the fundamental relationships and governing equations describing these types of flows and the basic physiology of certain systems that are highly associated with fluid flows. Previously offered as BMME 455.

Rules & Requirements
Requisites: Prerequisites, BMME 315 and one of BMME 205 or BMME 160.
Grading Status: Letter grade.

BMME 560. Medical Imaging II: X-Ray, CT, and Nuclear Medicine Systems. 3 Credits.
Overview of medical imaging systems using ionizing radiation. Interaction of radiation with matter. Radiation production and detection. Radiography systems and applications. Tomography. PET and SPECT systems and applications.

Rules & Requirements
Requisites: Prerequisites, BIOS 550, BMME 410, and PHYS 128.
Grading Status: Letter grade.

BMME 561. Introduction to Medical Imaging. 3 Credits.
This class covers the underlying concepts and instrumentation of modern medical imaging modalities. Review of applicable linear systems theory and relevant principles of physics. Modalities covered include X-ray radiography (conventional film-screen imaging and modern electronic imaging), computerized tomography (including the theory of reconstruction), magnetic resonance imaging, SPECT/PET, and ultrasound imaging. Previously offered as BMME 461.

Rules & Requirements
Requisites: Prerequisite, BMME 365.
Grading Status: Letter grade.

BMME 565. Biomedical Instrumentation I. 4 Credits.
Graduate students or permission of the instructor. Topics include basic electronic circuit design, analysis of medical instrumentation circuits, physiologic transducers (pressure, flow, bioelectric, temperate, and displacement). This course includes a laboratory where the student builds biomedical devices.

Rules & Requirements
Grading Status: Letter grade.

BMME 568. Super Resolution-Imaging Beyond Limits. 3 Credits.
All imaging systems have limitations due to hardware specifications or fundamental physical principles. This course will focus on ways to surpass these limits through experimental design, new physical principles, and deep learning/computational processing. Toward this end, we will cover the fundamental mechanisms of image formation in the most common biomedical imaging modalities and describe recent approaches to extend resolution beyond conventional limits.

Rules & Requirements
Requisites: Prerequisites, BMME 365 and [COMP 116 or BMME 201] or by permission from instructor.
Grading Status: Letter grade.

BMME 572. Analysis of Tissue Engineering Technologies. 3 Credits.
Lectures in this course address how to quantitatively evaluate functional engineered tissues. The course provides an overview of the field, with emphasis on detailed evaluation of scientific and commercial progress over time, and design principles that must be met to develop a process or fabricate a functional tissue-engineered part. Previously offered as BMME 470 and BMME 570.

Rules & Requirements
Requisites: Prerequisites, BMME 335 and BMME 302.
Grading Status: Letter grade.

BMME 575. Practical Machine Learning for Biosignal Analysis. 3 Credits.
This graduate level course will introduce practical machine learning concepts and tools, and will exemplify their application to the analysis of biological signals and images, including brain imaging, electrophysiology, and image recognition. MATH 347 recommended.

Rules & Requirements
Requisites: Prerequisites, COMP 116 or BMME 201 and MATH 233; permission of instructor for students lacking the prerequisites.
Grading Status: Letter grade.

BMME 576. Mathematics for Image Computing. 3 Credits.
Mathematics relevant to image processing and analysis using real image computing objectives and provided by computer implementations.

Rules & Requirements
Requisites: Prerequisites, COMP 116 or 210 or 401, and MATH 233; a grade of C or better is required in all prerequisites.
Grading Status: Letter grade.
Same as: COMP 576.

BMME 581. Microcontroller Applications II. 3 Credits.
Advanced topics in microcontroller systems used for biomedical instruments. Problems of interfacing computers with biomedical systems are studied. Students collaborate to develop a new biomedical instrument. Platforms could include the use of digital signal processing (DSP) microcontrollers or field programmable gate arrays (FPGAs), and topics could include applications such as digital signal processing and high speed data acquisition to computers.

Rules & Requirements
Requisites: Prerequisites, BMME 375 and 385 or equivalent.
Grading Status: Letter grade.

BMME 585. Biotechnology. 3 Credits.
This course is designed to prepare a biomedical engineering student with the survey tools to understand key components in modern biotechnologies. Fundamental concepts, theory, design, operation, and analysis of the most common biotechnologies in bioengineering will be presented. Previously offered as BMME 485.

Rules & Requirements
Requisites: Prerequisite, BMME 325 or CHEM 430.
Grading Status: Letter grade.

BMME 590. Special Topics in Biomedical Engineering. 1-9 Credits.
A study in the special fields under the direction of the faculty. Offered as needed for presenting material not normally available in regular BMME courses. Previously offered as BMME 490. Majors only.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 12 total completions.
Grading Status: Letter grade.

BMME 691H. Honors Thesis. 3 Credits.
Research honors course. Prior approval needed from the chair or associate chair of the program for topic selection and faculty research mentor. Minimum GPA requirement, written report, and abstract requirements as set forth by the honors program.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

BMME 692H. Honors Thesis. 3 Credits.
Research honors thesis continuation with required GPA, research topic selection with approved faculty mentor. Written abstract and report per honors program guidelines submitted by specific deadlines.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

BMME 697. BME Senior Design: Product Development. 3 Credits.
This course is part of a three year sequence and it expands on the skills and knowledge gained in BM(M)E 398. Students continue to learn the process of engineering design and learn new skills to produce solutions for unmet medical needs. Majors only.

Rules & Requirements
IDEAs in Action Gen Ed: FC-CREATE, COMMBEYOND.
Requisites: Prerequisites, BMME 398 and BMME 301 or 302; and two specialization or gateway electives.
Grading Status: Letter grade.

BMME 698. Biomedical Engineering Senior Design: Product Implementation and Strategy. 3 Credits.
This course is part of a three-year sequence and it expands on the skills and knowledge gained in prior design courses. Students continue to learn the process of engineering design and learn new skills to produce solutions for unmet medical needs. Implementation phase of the senior design experience.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Requisites: Prerequisites, BMME 697 or [BMME 398 and 302; 2 gateway or specialization electives]; Pre- or corequisite, 3 additional gateway or specialization electives.
Grading Status: Letter grade.

Graduate-level Courses

BMME 702. Biochemical Foundations of Biomedical Engineering. 3 Credits.
An overview of how tools in rehab engineering, microdevices, pharmacoengineering and biomedical imaging are developed to detect and treat alterations in biochemistry that affect human health. Enrollment in this course is only open to graduate students registered in the UNC/NCSU Joint Department of Biomedical Engineering.

Rules & Requirements
Grading Status: Letter grade.

BMME 740. Advanced Biomaterials. 3 Credits.
Medical or dental implants or explants are highlighted from textbooks, scientific literature, and personal accounts.

Rules & Requirements
Requisites: Prerequisite, BMME 510; Permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Same as: MTSC 740.

BMME 770. Physiology and Methods in Genomics. 4 Credits.
Lectures in physiology systems and lab techniques covering various functional genomic methods including DNA sequencing, gene arrays, proteomics, confocal microscopy, and imaging modalities.

Rules & Requirements
Grading Status: Letter grade.

BMME 775. Image Processing and Analysis. 3 Credits.
Approaches to analysis of digital images. Scale geometry, statistical pattern recognition, optimization. Segmentation, registration, shape analysis. Applications, software tools.

Rules & Requirements
Requisites: Prerequisites, MATH 233, MATH 547/347, and STOR 435.
Grading Status: Letter grade.
Same as: COMP 775.

BMME 780. Advanced Materials Science. 3 Credits.
This course covers the physical fundamentals of material science with an in-depth discussion of structure formation in soft and hard materials and how structure determines material mechanical, electrical, thermal, and optical properties. Topics include amorphous and crystal structures, defects, dislocation theory, thermodynamics and phase diagrams, diffusion, interfaces and microstructures, solidification, and theory of phase transformation. Special emphasis will be on the structure-property relationships of (bio)polymers, (nano)composites, and their structure property relationships.

Rules & Requirements
Grading Status: Letter grade.
Same as: MTSC 780, CHEM 780, PHYS 780.

BMME 790. Graduate Systems Physiology. 3 Credits.
This is the second semester of the two-semester series intended to provide graduate students with an introduction to systems and organ physiology.

Rules & Requirements
Requisites: Prerequisite, BMME 589.
Grading Status: Letter grade.

BMME 795. Information Processing in the Central Nervous System. 3 Credits.
Introduction to methodologies used to characterize a) the aggregate behavior of living neural networks and b) the changes in that behavior that occurs as a function of stimulus properties, pharmacological manipulations, and other factors that dynamically modify the functional status of the network.

Rules & Requirements
Requisites: Prerequisite, BMME 589.
Grading Status: Letter grade.

BMME 796. Seminar in Biomedical Imaging Science. 3 Credits.
This course serves as a gateway course to the Graduate Certificate in Biomedical Imaging Science. This course offers an introduction to the most common imaging modalities, including MR, CT, PET, SPECT, ultrasound, and optical imaging. Lectures include discussions of hardware, physics, as well as pre-clinical and clinical applications.

Rules & Requirements
Grading Status: Letter grade.
Same as: PSYC 796.

BMME 810. Digital Nuclear Imaging. 3 Credits.
Advanced topics of physics and instrumentation in nuclear imaging and magnetic resonance techniques.

Rules & Requirements
Requisites: Prerequisites, BMME 550 and 560.
Grading Status: Letter grade.

BMME 840. Rehabilitation Engineering Design. 4 Credits.
Students will design an assistive technology device to help individuals with disabilities to become more independent. The project will be used in the community when it is completed.

Rules & Requirements
Requisites: Prerequisite, BMME 465; Permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

BMME 890. Special Topics. 1-21 Credits.
Permission of the instructor. Special library and/or laboratory work on an individual basis on specific problems in biomedical engineering and biomedical mathematics. Direction of students is on a tutorial basis and subject matter is selected on the basis of individual needs and interests.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

BMME 900. Research in Biomedical Engineering and Biomathematics. 1-21 Credits.
Permission of the instructor.

Rules & Requirements
Grading Status: Letter grade.

BMME 993. Master's Research and Thesis. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

BMME 994. Doctoral Research and Dissertation. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

Contact Information

Department of Biomedical Engineering
Visit Program Website (http://www.bme.unc.edu)

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DEPARTMENT OF BIOSTATISTICS (GRAD)

The Department of Biostatistics is recognized as a worldwide leader in research and practice. Members of the faculty are interested both in the development of statistical methodology and application of statistics in applied research. The research strengths include: development of new statistical methods to address pressing issues in medicine and public health sciences; design of innovative clinical trials that allow faster evaluation of new therapeutic agents; collaborative work focused upon important public health concerns, including infectious diseases, cancer, cardiovascular disease, obesity and drinking water safety; and utilization of strong quantitative skills to improve the health of human beings around the globe.

The mission of the Department of Biostatistics is to forge dramatic advances in health science research that benefit human health in North Carolina, the U.S., and globally through the development of profound and paradigm-shifting innovations in biostatistical methodology and the thoughtful implementation of biostatistical practice to solve public health problems.

For more information, please reference the Academic Information Manual (https://sph.unc.edu/wp-content/uploads/sites/112/2023/09/AIM-2023-24_FINAL.pdf) on the department's website.

Master of Public Health (M.P.H.)

The redesigned UNC Gillings School of Global Public Health's master of public health (M.P.H.) program is for people who are passionate about solving urgent local and global public health problems. With a legacy of outstanding education, cutting edge research and globally recognized leadership, the UNC Gillings School is creating the next generation of public health leaders through our integrated training program and 21st century curriculum. The Department of Biostatistics hosts the public health data science concentration.

Master of Science (M.S.)

The master of science (M.S.) degree in the Department of Biostatistics provides students with research-oriented training in the theory and methodology of biostatistics and its application to solving problems in the health sciences.

Doctor of Philosophy (Ph.D.)

The doctor of philosophy (Ph.D.) degree in the Department of Biostatistics provides advanced, research-oriented training in theory and methodology of biostatistics to prepare individuals for careers in academia, government, and industry.

Public Health, Master's Program (M.P.H.) — Public Health Data Science Concentration

The Public Health Data Science concentration (https://sph.unc.edu/resource-pages/master-of-public-health-2/public-health-data-science-concentration/), one of the first applied data science programs situated within a school of public health, gives students the skills and knowledge to employ cutting-edge data science tools and respond to pressing public health issues with effective solutions. Data science draws upon multiple disciplines, combining the statistical skills to manipulate data and make inferences, the mathematical skills to model phenomena and make predictions, and the computer science skills to manage and analyze large data sets. Steeped in the public health context, our program offers a unique focus on leveraging the foundational statistical, mathematical, and computer science elements of data science to generate useful information from data sources relevant to public health.

Course Requirements

Requirements for the **M.P.H.** degree in the **Public Health Data Science** concentration

Code	Title	Hours
M.P.H. Integrated Core		
SPHG 711	Data Analysis for Public Health	2
SPHG 712	Methods and Measures for Public Health Practice	2
SPHG 713	Systems Approaches to Understanding Public Health Issues	2
SPHG 701	Leading from the Inside-Out	2
SPHG 721	Public Health Solutions: Systems, Policy and Advocacy	2
SPHG 722	Developing, Implementing, and Evaluating Public Health Solutions (MPH Comprehensive Exam administered in class)	4
M.P.H. Practicum		
SPHG 703	MPH Pre-Practicum Assignments	0.5
SPHG 707	MPH Post-Practicum Assignments	0.5
M.P.H. Concentration		
BIOS 512	Data Science Basics	3
BIOS 650	Basic Elements of Probability and Statistical Inference I	3
BIOS 635	Introduction to Machine Learning	3
BIOS 645	Principles of Experimental Analysis	3
EPID 710	Fundamentals of Epidemiology	3
M.P.H. Electives		
Electives (Graduate-level courses, 400+ level at Gillings, 500+ level at UNC)		9
M.P.H. Culminating Experience		
BIOS 992	Master's (Non-Thesis)	3
Minimum Hours		**42**

Admissions

Please visit Applying to the Gillings School (https://sph.unc.edu/students/how-to-apply/) first for details and information. Application to the residential M.P.H. is a 2-step process. Please apply separately to (1) SOPHAS and (2) UNC–Chapel Hill (via the Graduate School application link that will be sent after completing the SOPHAS application). Visit the Graduate School Web site (https://gradschool.sites.unc.edu/master-of-public-health/) for more details. If you are interested in the online M.P.H., please visit the MPH@UNC (https://onlinemph.unc.edu/) website and fill out an inquiry form.

Milestones

- Master's Committee
- Master's Written Examination/Approved Substitute (Comprehensive Exam)
- Thesis Substitute (Culminating Experience)

- Residence Credit
- Exit Survey
- Master's Professional Work Experience (Practicum)

Master of Science in Biostatistics (M.S.)

The Master of Science (MS) program is designed to provide research-oriented training in the theory and methodology of biostatistics and its applications to the solution of problems in the health sciences.

Course Requirements

Code	Title	Hours
Public Health Foundation Courses		
SPHG 600	Introduction to Public Health [1]	3
EPID 600	Principles of Epidemiology for Public Health	3
or EPID 710	Fundamentals of Epidemiology	
Core Courses		
BIOS 511	Introduction to Statistical Computing and Data Management	4
BIOS 660	Probability and Statistical Inference I	3
BIOS 661	Probability and Statistical Inference II	3
BIOS 662	Intermediate Statistical Methods	4
BIOS 663	Intermediate Linear Models	4
BIOS 667	Applied Longitudinal Data Analysis	3
BIOS 680	Introductory Survivorship Analysis	3
BIOS 691	Field Observations in Biostatistics	1
BIOS 841	Principles of Statistical Collaboration and Leadership	3
BIOS 843	Seminar in Biostatistics (two semesters, 2 credit hours) [2]	2
Electives [3,4,5]		
Six hours of course work that can include BIOS 635, 664, 665, and 668 or any course higher than 668 but not including 680 in Biostatistics.		6
Thesis/Substitute or Dissertation Course		
BIOS 992	Master's (Non-Thesis)	3
Minimum Hours		**45**

1. Students with a prior public health degree are not required to take SPHG 600; exemptions are available for those with non-public health degrees from accredited SPHs. Students should discuss with their Academic Coordinator.
2. BIOS 843 Seminar must be taken two semesters for two credit hours after comprehensive exams.
3. Six hours of course work that can include BIOS 635, 664, 665, and 668 or any course higher than 668 but not including 680 in Biostatistics, or equivalent in the Department of Statistics and Operations Research (STOR) at UNC, or in the Department of Statistics at North Carolina State University (NCSU); these hours are considered individually and must be approved by the DGS.
4. Students interested in substituting a graduate level course (600 level or higher) outside of the Gillings School of Global Public Health should submit a request to the Academic Coordinator for review by the DGS for consideration.
5. 700-level courses as approved by DGS would also count. Please refer to your student specialist. Please note that BIOS 990, BIOS 992, and BIOS 994 do not count towards the electives requirement.

Code	Title	Hours
Biostatistics Elective Course Options		
BIOS 635	Introduction to Machine Learning	3
BIOS 664	Sample Survey Methodology	4
BIOS 668	Design of Public Health Studies	3
BIOS 665	Analysis of Categorical Data	3
BIOS 672	Topics in Real Analysis, Introduction to Measure Theory	1
BIOS 673	Intermediate Statistical Inference	1
BIOS 669	Working with Data in a Public Health Research Setting	3

Milestones

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 27) for more information.

- Master's Committee
- Master's Written Exam / Approved Substitute
- Thesis Substitute
- Residence Credit
- Exit Survey
- Master's Written Exam 2

Doctor of Philosophy in Biostatistics (Ph.D.)

The doctor of philosophy (Ph.D.) degree in the Department of Biostatistics provides advanced, research-oriented training in theory and methodology of biostatistics to prepare individuals for careers in academia, government, and industry.

Course Requirements

Code	Title	Hours
Public Health Foundation Courses		
SPHG 600	Introduction to Public Health [1]	3
EPID 600	Principles of Epidemiology for Public Health	3
or EPID 710	Fundamentals of Epidemiology	
Core Courses		
BIOS 611	Introduction to Data Science	4
BIOS 660	Probability and Statistical Inference I	3
BIOS 661	Probability and Statistical Inference II	3
BIOS 662	Intermediate Statistical Methods	4
BIOS 663	Intermediate Linear Models	4
BIOS 672	Topics in Real Analysis, Introduction to Measure Theory	1
BIOS 673	Intermediate Statistical Inference	1
BIOS 735	Statistical Computing - Basic Principles and Applications	4
BIOS 760	Advanced Probability and Statistical Inference I	4
BIOS 761	Advanced Probability and Statistical Inference II	4
BIOS 762	Theory and Applications of Linear and Generalized Linear Models	4
BIOS 767	Longitudinal Data Analysis	4
BIOS 780	Theory and Methods for Survival Analysis	3

BIOS 841	Principles of Statistical Collaboration and Leadership	3
BIOS 843	Seminar in Biostatistics [2]	4
BIOS 850	Training in Statistical Teaching in the Health Sciences	3
Electives		
700-level Biostatistics or (Mathematical) Statistics course from the list below, or approval of the DGS		9
Thesis/Substitute or Dissertation Course		
BIOS 994	Doctoral Research and Dissertation	6
Minimum Hours		**71**

[1] Students with a prior public health degree are not required to take SPHG 600; exemptions are available for those with non-public health degrees from accredited SPHs. Students should discuss with their Academic Coordinator.

[2] Four hours of BIOS 843 Seminar taken individually as 1 credit hour

Code	Title	Hours
Biostatistics Elective Course Options		
BIOS 740	Specialized Methods in Health Statistics	3-4
BIOS 752	Design and Analysis of Clinical Trials	3
BIOS 764	Advanced Survey Sampling Methods	3
BIOS 765	Models and Methodology in Categorical Data	3
BIOS 772	Statistical Analysis of MRI Images	3
BIOS 773	Statistical Analysis with Missing Data	3
BIOS 774	Advanced Machine Learning	3
BIOS 782	Statistical Methods in Genetic Association Studies	3
BIOS 784	Introduction to Computational Biology	3
BIOS 785	Statistical Methods for Gene Expression Analysis	3
BIOS 775	Statistical Methods in Diagnostic Medicine	3
BIOS 776	Causal Inference in Biomedical Research	3
BIOS 777	Precision Medicine and Machine Learning	3
BIOS 779	Bayesian Statistics	4
BIOS 781	Statistical Methods in Human Genetics	4
STOR 701	Statistics and Operations Research Colloquium	1
STOR 712	Optimization for Machine Learning and Data Science	3
STOR 713	Mathematical Programming II	3
STOR 722	Integer Programming	3
STOR 734	Stochastic Processes	3
STOR 743	Reinforcement Learning and Markov Decision Processes	3
STOR 754	Time Series and Multivariate Analysis	3
STOR 757	Bayesian Statistics and Generalized Linear Models	3
STOR 767	Advanced Statistical Machine Learning	3

Milestones

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 27) for more information.

- Doctoral Committee
- Doctoral Oral Comprehensive Exam
- Doctoral Written Exam
- Prospectus Oral Exam
- Advanced to Candidacy
- Dissertation Defense
- Doctoral Dissertation Approved/Format Accepted
- Residence Credit
- Exit Survey

Following the faculty member's name is a section number that students should use when registering for independent studies, reading, research, and thesis and dissertation courses with that particular professor.

Professors

Kevin Anstrom (70), Clinical Trials, Statistical Consulting, Causal Inference, Data Safety Monitoring, Pragmatic Clinical Trials, and Coordinating Center Operations

Jianwen Cai (93), Survival Analysis and Regression Models, Clinical Trials, Analysis of Correlated Responses

David J. Couper (77), Epidemiological Methods, Longitudinal Data, Data Quality

Michael Hudgens (42), Nonparametric Estimation, Group Testing, Causal Inference, Infectious Diseases

Joseph G. Ibrahim (11), Bayesian Inference, Missing Data Problems, Bayesian Survival Analysis, Generalized Linear Models, Genomics

Anastasia Ivanova (83), Clinical Trials Design, Sequential Design of Binary Response Experiments, Statistical Methodology in Biostatistics

Gary G. Koch (14), Categorical Data Analysis, Nonparametric Methods

Michael R. Kosorok (88), Biostatistics, Bioinformatics, Empirical Processes, Statistical Learning, Data Mining, Semiparametric Inference, Monte Carlo Methods, Survival Analysis, Clinical Trials, Personalized Medicine, Cancer, Cystic Fibrosis

Yun Li (59), (Joint with the Department of Genetics), Statistical Genetics

Danyu Lin (31), Survival Analysis, Semiparametric Statistical Methods, Clinical Trials

Feng-Chang Lin (71), Survival Analysis, Generalized Linear Models, Longitudinal Analysis, Hearth Disease and Stroke, Infectious Disease, Neuroscience

Yufeng Liu (73), (Joint with the Department of Statistics and Operations Research), Statistical Machine Learning and Data Mining, High-Dimensional Data Analysis, Nonparametric Statistics and Functional Estimation, Bioinformatics, Design and Analysis of Experiments

James Stephen Marron (82), (Joint with the Department of Statistics and Operations Research), High Dimension Low Sample Size (HDLSS), Data and/or Data, Exotic Data Types such as Manifold and Tree-Structural Data

Jane Monaco (43), Survival Analysis, Correlated Failure Time Data

Andrew Nobel, (Joint with the Department of Statistics and Operations Research), Data Mining, Statistical Data of Genomic Data, Machine Learning

John S. Preisser Jr. (89), Categorical Data, Longitudinal Data Analysis

Bahjat Qaqish (94), Generalized Linear Models, Survival Analysis, Statistical Computing

Todd A. Schwartz (13), Categorical Data, Clinical Trials

Richard Smith, (Joint with the Department of Statistics and Operations Research), Spatial Statistics, Time Series Analysis, Extreme Value Theory, Bayesian Statistics

Daniela T. Sotres-Alvarez (74), Linear Mixed Models, Latent Variable Models, Dietary and Physical Activity Patterns

Xianming Tan (50), Finite Mixture Models, Design of Clinical Studies, Variable Selection for Zero-Inflated Models, Non-Parametric Regression

Kinh N. Truong (90), Time Series Analysis, Nonparametric Regression, Bootstrap Methods, Hazard Regression, Splines

Haibo Zhou (40), Missing/Auxiliary Data, Survival Analysis, Human Fertility
Hongtu Zhu (48), Neuroimaging Statistics, Structural Equation Models, Statistical Computing, Diagnostic Methods
Fei Zou (4), Statistical Genetics

Associate Professors

Jamie B. Crandell (64), (Joint with the School of Nursing,) Bayesian Methods, Longitudinal Analysis and Measurement Error Modeling
Tanya P. Garcia (67), Survival Analysis, Semiparametric Theory, Longitudinal Data Analysis
Annie Green Howard (75), Cardiovascular Disease, Global Health
Quefeng Li (81), High Dimensional Data Analysis, Integrative Analysis of Omics Data, Robust Statistics, Factor Models
Michael I. Love (39), (Joint with the Department of Genetics,) Statistical Modeling of Genetics Data, High-Throughput Sequencing, RNA Sequencing (RNA-seq), Empirical Bayes Methods
Naim Rashid (79), Cancer, Genomics, High Throughput Sequencing, High Dimensional Data Analysis, Variable Selection
Bonnie Shook-Sa (98), Causal Inference, Survey Sampling, Infectious Diseases, Epidemiology
Di Wu (51), (Joint with the School of Dentistry,) Statistical Bioinformatics and Biostatistics for Preprocess and Integration of High-Dimensional Biomedical Data
Baiming Zou (97), Robust Modeling of Data with Complex Structures, Machine Learning Methods for Large Scale Electronic Health Record Data Analysis

Assistant Professors

Didong Li (80), Geometric Data Analysis, Information Geometry, Nonparametric Bayes, Spatial Statistics
Xihao Li (16), Statistical Genetics and Genomics, Integrative Analysis of WGS/WES and Multi-Omics Data, Functional Genomics and Annotations, Data Integration and Meta-Analysis, Multivariate Analysis, Machine Learning
Yusha Liu (54), Cancer, Single-Cell Modeling, Multi-Omics Data Integration, Bayesian Inference, Functional Data Analysis, and Quantile Regression
Ivana Malenica, Casual Inference, Machine Learning, Non-/Semiparametric Inference
Kara McCormack (85), Statistical Pedagogy, Classroom Accessibility and Inclusivity
Lina Montoya, Causal Inference, Precision Health/Policy, (Optimal) Dynamic Treatment Regimes, Sequential Multiple Assignment Randomized Trials, Semiparametric Efficient Estimation and Adaptive Designs
Bryce Rowland (46), Precision Medicine, Clinical Trial Design and Execution, Applied Biostatistics
David Zhang, Methodology: Computer Vision, Language Models, Generative AI; Applications: Spatial Omics, Computational Pathology, Medical Imaging
Beibo Zhao, Subgroup Analysis in Clinical Trials and Observational Studies, Survey Sampling

Instructors

Jane Eslinger (62)
Kinsey Helton
Marcus Herman-Giddens
Jeff Laux
Vincent Toups (17)

Adjunct Professors

Haoda Fu
Eric Laber
Sean Simpson
Wei Sun
William Valdar
Clarice Weinberg
Xiaojing Zheng
Donglin Zeng
Richard Zink

Adjunct Associate Professors

Matthew Psioda
Shanshan Zhao

Adjunct Assistant Professors

Marcella H. Boynton
Luiz Carvalho
Nikki L.B. Freeman
Charles Pepe-Ranney
Zhengwu Zhang

Professors Emeriti

Robert Agans
Shrikant I. Bangdiwala
Lloyd E. Chambless
Clarence E. Davis
James E. Grizzle
Ronald W. Helms
William D. Kalsbeek
Lawrence L. Kupper
Lisa M. LaVange
Keith E. Muller
Michael J. Symons

BIOS

Advanced Undergraduate and Graduate-level Courses

BIOS 500H. Introduction to Biostatistics. 3 Credits.
Access to SAS, Excel required. Permission of instructor for nonmajors. Introductory course in probability, data analysis, and statistical inference designed for B.S.P.H. biostatistics students. Topics include sampling, descriptive statistics, probability, confidence intervals, tests of hypotheses, chi-square distribution, 2-way tables, power, sample size, ANOVA, non-parametric tests, correlation, regression, survival analysis.

Rules & Requirements
Requisites: Prerequisite, MATH 231 and 232; corequisite, BIOS 511.
Grading Status: Letter grade.

BIOS 511. Introduction to Statistical Computing and Data Management. 4 Credits.
Required preparation, previous or concurrent course in applied statistics. Permission of instructor for nonmajors. Introduction to use of computers to process and analyze data, concepts and techniques of research data management, and use of statistical programming packages and interpretation. Focus is on use of SAS for data management and reporting.

Rules & Requirements
Grading Status: Letter grade.

BIOS 512. Data Science Basics. 3 Credits.
Students will gain proficiency with R, data wrangling, data quality control and cleaning, data visualization, exploratory data analysis, with an overall emphasis on the principles of good data science, particularly reproducible research. The course will also develop familiarity with several software tools for data science best practices, such as Git, Docker, Jupyter, Make, and Nextflow.

Rules & Requirements
Grading Status: Letter grade.

BIOS 540. Problems in Biostatistics. 1-3 Credits.
Students taking this course can explore an idea, contribute to a research project and produce a final deliverable (report or paper) under the direction of a faculty member of the Department of Biostatistics. Arrangements must be made with the faculty member in each case. This course provides RESEARCH credit as part of the IDEAS in Action curriculum as students engage in the research process. Honors version available.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Repeat Rules: May be repeated for credit. 12 total credits. 12 total completions.
Grading Status: Letter grade.

BIOS 600. Principles of Statistical Inference. 3 Credits.
Required preparation, knowledge of basic descriptive statistics. Major topics include elementary probability theory, probability distributions, estimation, tests of hypotheses, chi-squared procedures, regression, and correlation.

Rules & Requirements
Grading Status: Letter grade.

BIOS 611. Introduction to Data Science. 4 Credits.
Topics will include gaining proficiency with R and Python, data wrangling, data quality control and cleaning, data visualization, exploratory data analysis, and introductory applied optimization, with an overall emphasis on the principles of good data science, particularly reproducible research. Some emphasis will be given to large data settings such as genomics or claims data. The course will also develop familiarity with software tools for data science best practices, such as Git, Docker, Jupyter, and Nextflow.

Rules & Requirements
Requisites: Prerequisites, MATH 232 and 416, and STOR 151.
Grading Status: Letter grade.

BIOS 635. Introduction to Machine Learning. 3 Credits.
This course will be an introductory course to machine learning. The goal is to equip students with knowledge of existing tools for data analysis and to prepare students for more advanced courses in machine learning. Students in the SPH Master of Public Health with a Public Health Data Science concentration receive priority for enrollment.

Rules & Requirements
Requisites: Prerequisite, BIOS 512 or 650; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

BIOS 641. Quantitative Methods for Health Care Professionals I. 4 Credits.
Course is designed to meet the needs of health care professionals to appraise the design and analysis of medical and health care studies and who intend to pursue academic research careers. Covers basics of statistical inference, analysis of variance, multiple regression, categorical data analysis. Previously offered as PUBH 741. Permission of instructor.

Rules & Requirements
Grading Status: Letter grade.

BIOS 642. Quantitative Methods for Health Care Professionals II. 4 Credits.
Continuation of BIOS 641. Main emphasis is on logistic regression; other topics include exploratory data analysis and survival analysis. Previously offered as PUBH 742.

Rules & Requirements
Requisites: Prerequisite, BIOS 641.
Grading Status: Letter grade.

BIOS 645. Principles of Experimental Analysis. 3 Credits.
Required preparation, basic familiarity with statistical software (preferably SAS able to do multiple linear regression) and introductory biostatistics, such as BIOS 600. Continuation of BIOS 600. Analysis of experimental and observational data, including multiple regression and analysis of variance and covariance. Previously offered as BIOS 545. Permission of the instructor for nonmajors.

Rules & Requirements
Requisites: Prerequisites, BIOS 600 or SPHG 711.
Grading Status: Letter grade.

BIOS 650. Basic Elements of Probability and Statistical Inference I. 3 Credits.
Required preparation, two semesters of calculus (such as MATH 231, 232). Fundamentals of probability; discrete and continuous distributions; functions of random variables; descriptive statistics; fundamentals of statistical inference, including estimation and hypothesis testing.

Rules & Requirements
Grading Status: Letter grade.

BIOS 660. Probability and Statistical Inference I. 3 Credits.
Required preparation, three semesters of calculus (such as MATH 231, 232, 233). Introduction to probability; discrete and continuous random variables; expectation theory; bivariate and multivariate distribution theory; regression and correlation; linear functions of random variables; theory of sampling; introduction to estimation and hypothesis testing.

Rules & Requirements
Grading Status: Letter grade.

BIOS 661. Probability and Statistical Inference II. 3 Credits.
Distribution of functions of random variables; Helmert transformation theory; central limit theorem and other asymptotic theory; estimation theory; maximum likelihood methods; hypothesis testing; power; Neyman-Pearson Theorem, likelihood ratio, score, and Wald tests; noncentral distributions.

Rules & Requirements
Requisites: Prerequisite, BIOS 660; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

BIOS 662. Intermediate Statistical Methods. 4 Credits.
Principles of study design, descriptive statistics, sampling from finite and infinite populations, inferences about location and scale. Both distribution-free and parametric approaches are considered. Gaussian, binomial, and Poisson models, one-way and two-way contingency tables.

Rules & Requirements
Requisites: Pre- or corequisites, BIOS 511 and 650.
Grading Status: Letter grade.

BIOS 663. Intermediate Linear Models. 4 Credits.
Required preparation, BIOS 662. Matrix-based treatment of regression, one-way and two-way ANOVA, and ANCOVA, emphasizing the general linear model and hypothesis, as well as diagnostics and model building. Reviews matrix algebra. Includes statistical power for linear models and binary response regression methods.

Rules & Requirements
Grading Status: Letter grade.

BIOS 664. Sample Survey Methodology. 4 Credits.
Fundamental principles and methods of sampling populations, with emphasis on simple, random, stratified, and cluster sampling. Sample weights, nonsampling error, and analysis of data from complex designs are covered. Practical experience through participation in the design, execution, and analysis of a sampling project.

Rules & Requirements
Requisites: Prerequisite, BIOS 650; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Same as: STOR 358.

BIOS 665. Analysis of Categorical Data. 3 Credits.
Introduction to the analysis of categorized data: rates, ratios, and proportions; relative risk and odds ratio; Cochran-Mantel-Haenszel procedure; survivorship and life table methods; linear models for categorical data. Applications in demography, epidemiology, and medicine.

Rules & Requirements
Requisites: Prerequisites, BIOS 645, 650, and 662; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

BIOS 667. Applied Longitudinal Data Analysis. 3 Credits.
Matrix-based longitudinal data analysis emphasizing applications and interpretation. Linear and generalized linear, marginal and mixed regression models. Fixed effects and random effects. Maximum likelihood, REML, GEE. Regression diagnostics. Sample size. Simulation of longitudinal data.

Rules & Requirements
Requisites: Prerequisites, BIOS 661 and BIOS 663; permissions from the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

BIOS 668. Design of Public Health Studies. 3 Credits.
Statistical concepts in basic public health study designs: cross-sectional, case-control, prospective, and experimental (including clinical trials). Validity, measurement of response, sample size determination, matching and random allocation methods.

Rules & Requirements
Requisites: Prerequisites, BIOS 645 and 650.
Grading Status: Letter grade.

BIOS 669. Working with Data in a Public Health Research Setting. 3 Credits.
Provides a foundation and training for working with data from clinical trials or research studies. Topics: issues in study design, collecting quality data, using SAS and SQL to transform data, typical reports, data closure and export, and working with big data.

Rules & Requirements
Requisites: Prerequisite, BIOS 511 or EPID 700; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

BIOS 670. Demographic Techniques I. 3 Credits.
Source and interpretation of demographic data; rates and ratios, standardization, complete and abridged life tables; estimation and projection of fertility, mortality, migration, and population composition.

Rules & Requirements
Grading Status: Letter grade.

BIOS 672. Topics in Real Analysis, Introduction to Measure Theory. 1 Credits.
Selected topics in calculus, real analysis including Taylor's series, Riemann, Stieltjes and Lebesgue integration, and complex variables. Introduction to measure theory.

Rules & Requirements
Requisites: Corequisite, BIOS 660.
Grading Status: Letter grade.

BIOS 673. Intermediate Statistical Inference. 1 Credits.
This course introduces intermediate concepts and theories in statistical inferences, including multivariate transformation, convergence of random vectors, sufficient and complete statistics, methods of estimation, and advanced problems such as information inequality, unbiased estimators, Bayes estimators, asymptotically efficient estimation, nonparametric estimation, and simultaneous confidence intervals.

Rules & Requirements
Requisites: Prerequisite, BIOS 660; permission of the instructor for students lacking the prerequisite; Corequisite, BIOS 661.
Grading Status: Letter grade.

BIOS 680. Introductory Survivorship Analysis. 3 Credits.
Introduction to concepts and techniques used in the analysis of time to event data, including censoring, hazard rates, estimation of survival curves, regression techniques, applications to clinical trials.

Rules & Requirements
Requisites: Prerequisite, BIOS 661; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

BIOS 690. Special Topics in Biostatistics. 1-3 Credits.
Field/topical/research seminar. Instructors use this course to offer instruction in particular topics or approaches.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 6 total credits. 6 total completions.
Grading Status: Letter grade.

BIOS 691. Field Observations in Biostatistics. 1 Credits.
Field visits to, and evaluation of, major nonacademic biostatistical programs in the Research Triangle area. Field fee: $25.

Rules & Requirements
Grading Status: Letter grade.

BIOS 693H. Honors Research in Biostatistics. 3 Credits.
Directed research. Written and oral reports required.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

BIOS 694H. Honors Research in Biostatistics. 3 Credits.
Directed research. Written and oral reports required.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

Graduate-level Courses

BIOS 700. Research Skills in Biostatistics. 1 Credits.
Permission of the department for students with passing grade of either doctoral qualifying examination in biostatistics. BIOS 700 will introduce doctoral students in biostatistics to research skills necessary for writing a dissertation and for a career in research.

Rules & Requirements
Requisites: Prerequisites, BIOS 760, 761 or 758, 762, 763, and 767.
Grading Status: Letter grade.

BIOS 735. Statistical Computing - Basic Principles and Applications. 4 Credits.
Required preparation, one undergraduate-level programming class. Teaches important concepts and skills for statistical software development using case studies. After this course, students will have an understanding of the process of statistical software development, knowledge of existing resources for software development, and the ability to produce reliable and efficient statistical software.

Rules & Requirements
Requisites: Prerequisites, BIOS 660, 661, 662, and 663.
Grading Status: Letter grade.

BIOS 740. Specialized Methods in Health Statistics. 1-21 Credits.
Permission of the instructor. Statistical theory applied to special problem areas of timely importance in the life sciences and public health. Lectures, seminars, and/or laboratory work, according to the nature of the special area under study.

Rules & Requirements
Grading Status: Letter grade.

BIOS 752. Design and Analysis of Clinical Trials. 3 Credits.
This course will introduce the methods used in clinical. Topics include dose-finding trials, allocation to treatments in randomized trials, sample size calculation, interim monitoring, and non-inferiority trials.

Rules & Requirements
Requisites: Prerequisites, BIOS 600 and 661.
Grading Status: Letter grade.

BIOS 756. Advanced Nonparametric Methods in Biometric Research. 3 Credits.
Theory and application of nonparametric methods for various problems in statistical analysis. Includes procedures based on randomization, ranks and U-statistics. A knowledge of elementary computer programming is assumed.

Rules & Requirements
Requisites: Prerequisite, BIOS 661.
Grading Status: Letter grade.

BIOS 760. Advanced Probability and Statistical Inference I. 4 Credits.
Measure space, sigma-field, measurable functions, integration, conditional probability, distribution functions, characteristic functions, convergence modes, SLLN, CLT, Cramer-Wold device, delta method, U-statistics, martingale central limit theorem, UMVUE, estimating function, MLE, Cramer-Rao lower bound, information bounds, LeCam's lemmas, consistency, efficiency, EM algorithm.

Rules & Requirements
Requisites: Prerequisite, BIOS 661; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

BIOS 761. Advanced Probability and Statistical Inference II. 4 Credits.
Elementary decision theory: admissibility, minimaxity, loss functions, Bayesian approaches. Hypothesis testing: Neyman-Pearson theory, UMP and unbiased tests, invariance, confidence sets, contiguous alternatives. Elements of stochastic processes: Poisson processes, renewal theory, Markov chains, martingales, Brownian motion.

Rules & Requirements
Requisites: Prerequisite, BIOS 760; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

BIOS 762. Theory and Applications of Linear and Generalized Linear Models. 4 Credits.
Linear algebra, matrix decompositions, estimability, multivariate normal distributions, quadratic forms, Gauss-Markov theorem, hypothesis testing, experimental design, general likelihood theory and asymptotics, delta method, exponential families, generalized linear models for continuous and discrete data, categorical data, nuisance parameters, over-dispersion, multivariate linear model, generalized estimating equations, and regression diagnostics.

Rules & Requirements
Requisites: Prerequisites, BIOS 661 and 663, MATH 547, and 416 or 577; Co-requisite, BIOS 760.
Grading Status: Letter grade.

BIOS 764. Advanced Survey Sampling Methods. 3 Credits.
Continuation of BIOS 664 for advanced students: stratification, special designs, multistage sampling, cost studies, nonsampling errors, complex survey designs, employing auxiliary information, and other miscellaneous topics.

Rules & Requirements
Requisites: Prerequisite, BIOS 664.
Grading Status: Letter grade.

BIOS 765. Models and Methodology in Categorical Data. 3 Credits.
Theory and application of methods for categorical data including maximum likelihood, estimating equations and chi-square methods for large samples, and exact inference for small samples.

Rules & Requirements
Requisites: Prerequisites, BIOS 661, 663 and 665 or permission of instructor.
Grading Status: Letter grade.

BIOS 767. Longitudinal Data Analysis. 4 Credits.
Presents modern approaches to the analysis of longitudinal data. Topics include linear mixed effects models, generalized linear models for correlated data (including generalized estimating equations), computational issues and methods for fitting models, and dropout or other missing data.

Rules & Requirements
Requisites: Prerequisites, BIOS 661 and 762; Permission of the instructor for nonmajors.
Grading Status: Letter grade.

BIOS 771. Demographic Techniques II. 3 Credits.
Required preparation, integral calculus. Life table techniques; methods of analysis when data are deficient; population projection methods; interrelations among demographic variables; migration analysis; uses of population models.

Rules & Requirements
Requisites: Prerequisite, BIOS 670.
Grading Status: Letter grade.

BIOS 772. Statistical Analysis of MRI Images. 3 Credits.
The course will review major statistical methods for the analysis of MRI and its applications in various studies.

Rules & Requirements
Grading Status: Letter grade.

BIOS 773. Statistical Analysis with Missing Data. 3 Credits.
Fundamental concepts, including classifications of missing data, missing covariate and/or response data in linear models, generalized linear models, longitudinal data models, and survival models. Maximum likelihood methods, multiple imputation, fully Bayesian methods, and weighted estimating equations. Focus on biomedical sciences case studies. Software packages include WinBUGS, SAS, and R.

Rules & Requirements
Requisites: Prerequisites, BIOS 761 and 762.
Grading Status: Letter grade.

BIOS 774. Advanced Machine Learning. 3 Credits.
This advanced machine learning course, designed for PhD students in biostatistics and related fields, centers on cutting-edge tools in ML, encompassing theory, methods, and applications. It is motivated by complex biomedical data problems, offering in-depth exploration of technical details, model understanding, and the strengths and weaknesses of various approaches. The aim is to provide a comprehensive understanding of state-of-the-art ML tools for effectively analyzing and solving intricate biomedical data challenges.

Rules & Requirements
Requisites: Prerequisite, BIOS 760; BIOS 762 and one of the following: BIOS 635, BIOS 735, STOR 565, STOR 767, CS 755; Instructor Consent.
Grading Status: Letter grade.

BIOS 775. Statistical Methods in Diagnostic Medicine. 3 Credits.
Statistical concepts and techniques for evaluating medical diagnostic tests and biomarkers for detecting disease. Measures for quantifying test accuracy. Statistical procedures for estimating and comparing these quantities, including regression modeling. Real data will be used to illustrate the methods. Developments in recent literature will be covered.

Rules & Requirements
Requisites: Prerequisites, BIOS 761 and 762.
Grading Status: Letter grade.

BIOS 776. Causal Inference in Biomedical Research. 3 Credits.
This course will consider drawing inference about causal effects in a variety of settings using the potential outcomes framework. Topics covered include causal inference in randomized experiments and observational studies, bounds and sensitivity analysis, propensity scores, graphical models, and other areas.

Rules & Requirements
Requisites: Prerequisites, BIOS 661 and 663; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

BIOS 777. Precision Medicine and Machine Learning. 3 Credits.
In this course, we will address precision medicine from a statistical and machine learning perspective with numerous examples of application. We will develop a working knowledge of the following inter-related areas in the context of precision medicine and precision health: dynamic treatment regimes; causal inference for precision medicine; study designs such as SMARTs, basic and advanced machine learning and artificial intelligence tools, including deep learning, outcome weighted learning, reinforcement learning and Markov decision processes.

Rules & Requirements
Requisites: Prerequisites, BIOS 661 and 663 or equivalent.
Grading Status: Letter grade.

BIOS 779. Bayesian Statistics. 4 Credits.
Topics include Bayes' theorem, the likelihood principle, prior distributions, posterior distributions, predictive distributions, Bayesian modeling, informative prior elicitation, model comparisons, Bayesian diagnostic methods, variable subset selection, and model uncertainty. Markov chain Monte Carlo methods for computation are discussed in detail.

Rules & Requirements
Requisites: Prerequisite, BIOS 762; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

BIOS 780. Theory and Methods for Survival Analysis. 3 Credits.
Counting process-martingale theory, Kaplan-Meier estimator, weighted log-rank statistics, Cox proportional hazards model, nonproportional hazards models, multivariate failure time data.

Rules & Requirements
Requisites: Prerequisites, BIOS 760 and 761; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

BIOS 781. Statistical Methods in Human Genetics. 4 Credits.
An introduction to statistical procedures in human genetics, Hardy-Weinberg equilibrium, linkage analysis (including use of genetic software packages), linkage disequilibrium and allelic association.

Rules & Requirements
Requisites: Prerequisites, BIOS 661 and 663; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

BIOS 782. Statistical Methods in Genetic Association Studies. 3 Credits.
This course provides a comprehensive survey of the statistical methods for the designs and analysis of genetic association studies, including genome-wide association studies and next-generation sequencing studies. The students will learn the theoretical justifications for the methods as well as the skills to apply them to real studies.

Rules & Requirements
Requisites: Prerequisite, BIOS 760.
Grading Status: Letter grade.

BIOS 784. Introduction to Computational Biology. 3 Credits.
Molecular biology, sequence alignment, sequence motifs identification by Monte Carlo Bayesian approaches, dynamic programming, hidden Markov models, computational algorithms, statistical software, high-throughput sequencing data and its application in computational biology.

Rules & Requirements
Requisites: Prerequisites, BIOS 661 and 663; Permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.
Same as: BCB 784.

BIOS 785. Statistical Methods for Gene Expression Analysis. 3 Credits.
Clustering algorithms, classification techniques, statistical techniques for analyzing multivariate data, analysis of high dimensional data, parametric and semiparametric models for DNA microarray data, measurement error models, Bayesian methods, statistical software, sample size determination in microarray studies, applications to cancer.

Rules & Requirements
Requisites: Prerequisites, BIOS 661 or 673, and 663; Permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.
Same as: BCB 785.

BIOS 791. Empirical Processes and Semiparametric Inference. 3 Credits.
Theory and applications of empirical process methods to semiparametric estimation and inference for statistical models with both finite and infinite dimensional parameters. Topics include bootstrap, Z-estimators, M-estimators, semiparametric efficiency.

Rules & Requirements
Requisites: Prerequisite, BIOS 761; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

BIOS 841. Principles of Statistical Collaboration and Leadership. 3 Credits.
An introduction to the statistical collaborative process and leadership skills. Emphasized topics include problem solving, study design, data analysis, ethical conduct, teamwork, career paths, data management, written and oral communication with scientists and collaborators.

Rules & Requirements
Grading Status: Letter grade.

BIOS 842. Practice in Statistical Consulting. 1-21 Credits.
Under supervision of a faculty member, the student interacts with research workers in the health sciences, learning to abstract the statistical aspects of substantive problems, to provide appropriate technical assistance, and to communicate statistical results.

Rules & Requirements
Requisites: Prerequisites, BIOS 511, 645, 650, and 841; Permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

BIOS 843. Seminar in Biostatistics. 1 Credits.
This seminar course is intended to give students exposure to cutting edge research topics and hopefully help them in their choice of a thesis topic. It also allows the student to meet and learn from major researchers in the field.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

BIOS 844. Leadership in Biostatistics. 3 Credits.
Using lectures and group exercises, students are taught where and how biostatisticians can offer leadership in both academic and nonacademic public health settings.

Rules & Requirements
Requisites: Prerequisite, BIOS 841.
Grading Status: Letter grade.

BIOS 850. Training in Statistical Teaching in the Health Sciences. 1-21 Credits.
Required preparation, a minimum of one year of graduate work in statistics. Principles of statistical pedagogy. Students assist with teaching elementary statistics to students in the health sciences. Students work under the supervision of the faculty, with whom they have regular discussions of methods, content, and evaluation of performance.

Rules & Requirements
Grading Status: Letter grade.

BIOS 889. Research Seminar in Biostatistics. 0.5-21 Credits.
Permission of the instructor. Seminar on new research developments in selected biostatistical topics.

Rules & Requirements
Grading Status: Letter grade.

BIOS 990. Research in Biostatistics. 1-21 Credits.
Individual arrangements may be made by the advanced student to spend part or all of his or her time in supervised investigation of selected problems in statistics.

Rules & Requirements
Grading Status: Letter grade.

BIOS 992. Master's (Non-Thesis). 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

BIOS 994. Doctoral Research and Dissertation. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

Contact Information

Department of Biostatistics
Visit Program Website (http://www.sph.unc.edu/bios/)

Chair
Michael G. Hudgens

Associate Chair
Todd A. Schwartz

KENAN–FLAGLER BUSINESS SCHOOL (GRAD)

UNC Kenan-Flagler Business School offers a number of graduate degree programs, including a STEM-designated master of business administration (M.B.A.), a STEM-designated master of accounting (M.A.C.), a STEM-designated master of management (M.S.M.), and doctor of philosophy (Ph.D.).

Since 1919, UNC Kenan-Flagler has been educating the next generation of ambitious, principled, and collaborative leaders who are keenly focused on the bottom line as well as the greater good. Our outcomes-focused approach influences the way we teach — and the way you learn. We focus on the theory and the practice of business, so you graduate equipped with the leadership dexterity and real-world knowledge to succeed throughout your career.

UNC Kenan-Flagler is recognized for world-class teaching. The faculty consistently has been nationally ranked for teaching excellence, availability, and responsiveness to students, with an emphasis on relevant, applied research and case development.

In and out of the classroom, through the curriculum we design, the experiences we provide, the collaborative culture we promote, the faculty we hire, and even the way we conduct ourselves as a member of our community, we are guided by our core values of integrity, inclusion, innovation, and impact.

Today, our graduates number more than 51,000. These high-achieving alumni live, work, and flourish in all states and 97 countries.

Financial Aid and Funding Opportunities

All admitted students to the UNC Kenan-Flagler Ph.D. program are offered five years of guaranteed financial support, including summers. Aid might last longer for exceptional students. Financial support is dependent upon a student remaining in good academic standing with satisfactory progress to degree completion. Funding may come in the form of research/teaching assistantships or teaching fellowships, health insurance coverage, and tuition and student fees coverage. Visit our funding website (https://www.kenan-flagler.unc.edu/programs/phd/admission-requirements/funding/) for details.

All applicants to the UNC Kenan-Flagler M.B.A. program (full-time, evening executive, Charlotte executive, weekend executive, online) are considered for merit-based scholarship funding, which is offered for the duration of the program. Students may also apply for loan funding through Federal (U.S. citizens and permanent residents) and/or private sources.

All applicants to the M.A.C. and M.S.M. programs are considered for merit-based scholarship funding. Students may also apply for loan funding through Federal and/or private sources.

Master of Business Administration (Full-Time M.B.A.)

UNC Kenan-Flagler's highly ranked, full-time master of business administration (M.B.A.) program provides exceptional students with the opportunity to develop outstanding business acumen, analytical skills and leadership savvy. The two-year program combines a semester of core coursework spread across two modules, which is designed to expose you to technical and analytical expertise, leadership concepts and decision-making frameworks. A substantial portion of the second semester of the first year and the entire second year is devoted to elective courses where you'll concentrate in areas specific to developing skills that align with your personal and professional interests. Throughout the program, you'll be exposed to diverse skills and personalities, learn to ask the right questions, work effectively with others and persuasively present ideas.

The core curriculum is complemented with a vast array of local and global experiential learning opportunities, including global coursework, such as a Global Immersion Electives (GIEs), and experiential opportunities such as our STAR consulting program.

The M.B.A. program is well recognized for shaping professionals who are equally adept at the technical aspects of business, centered on analytical and functional skills, and at effective leadership, including teamwork, collaboration and executional skills.

More program information, admissions requirements and application can be found on the program website (https://www.kenan-flagler.unc.edu/programs/mba/full-time-mba/) or by contacting the M.B.A. Admissions Office (http://www.kenan-flagler.unc.edu/programs/mba/) by: phone (919) 962-9129 or e-mail mba_info@unc.edu.

Master of Business Administration (Evening Executive M.B.A., Charlotte Executive M.B.A, and Weekend Executive M.B.A.)

UNC Kenan–Flagler offers three cohort-based programs for working professionals who value regular in-person learning experiences with peers and faculty and want to pursue their M.B.A. without interrupting their careers.

Through dynamic, face-to-face, team-based learning, you'll connect and collaborate with a diverse group of driven, experienced peers, strengthening your network and developing your leadership potential. The cohort model of these programs means you'll move through your M.B.A. together with the same group of classmates, sharing perspectives and expertise, problem solving as a team, and developing deep bonds. All three of our executive M.B.A. programs come together twice in the first year for Impact Weekends; these 3-day cross-program networking and immersive learning experiences focus on leadership and innovation topics relevant to mid-to-senior level professionals.

The Evening M.B.A. program (24 months) meets once a week for the first year, and one or two nights a week during the second year. The first year is focused on core coursework that will strengthen your strategic and tactical business skills. Core courses are designed to both cover theory and incorporate real-life situations — including your on-the-job business challenges. In the second year, you'll have access to many electives to customize your M.B.A. and target specific skills to achieve your career objectives. This program is best suited to professionals with at least two years of work experience who live and work in the Triangle area.

The Charlotte M.B.A. program (24 months) meets once a week for the first year at our executive campus in the heart of Charlotte, and one or two nights a week during the second year. The first year is focused on core coursework that will strengthen your strategic and tactical business skills, and incorporates Executive Friday lunches 3 times per term, where students hear from local leaders on relevant business topics. Core courses are designed to both cover theory and incorporate real-life

situations — including your on-the-job business challenges. In the second year, you'll have access to many electives to customize your M.B.A. and target specific skills to achieve your career objectives. This program is best suited to professionals with at least two years of work experience, with at least five preferred, who live and work in the Charlotte area.

The Weekend Executive M.B.A. program (21 months) meets every third weekend and offers an immersive, intensive learning environment. During the first year of the program, you'll complete core coursework that strengthens your business acumen and develops your leadership and team skills. The final 9 months of the program are focused on electives, which provide you with the opportunity to customize your academic program to suit your career objectives and interests, whether you're seeking to climb the corporate ladder, shift to a new career focus, or build a business. This program is well suited to professionals from around the country (and within North Carolina), and requires a minimum of five years of work experience.

More program information, admissions requirements, and application details can be found on the program website (https://www.kenan-flagler.unc.edu/programs/mba/weekend-executive-mba/) or by contacting the M.B.A. Admissions Office (http://www.kenan-flagler.unc.edu/programs/mba/) by: phone (919) 962-9129 or e-mail mba_info@unc.edu.

Master of Business Administration (MBA@UNC-Online MBA)

MBA@UNC blends the flexibility of an online program with the rigor and quality of an on-campus experience, through the use of innovative technologies and immersive learning experiences. Weekly live classes are delivered online, offering you the ability to learn from world-class faculty and peers from anywhere you live and anywhere life takes you.

The program is structured so that faculty and classmates get to know one another in ways that shape the vibrant learning community that sets UNC Kenan-Flagler apart. You'll participate in small, required, weekly class sessions, allowing you to foster strong connections and benefit from the perspectives of your peers and faculty, while completing asynchronous coursework on your own time. On average, students complete their degrees in two years, but may take up to three years to complete coursework.

MBA@UNC is designed to provide aspiring leaders with the strong general management and leadership curriculum required to propel them to the next level in their careers. Following a foundation of required core courses, you will customize your studies through extensive elective offerings, experiential opportunities, and required in-person Summit experiences, to ensure you've developed the skills you need to meet your goals.

MBA@UNC leverages the same world-class faculty members who teach in UNC Kenan-Flagler's other top-ranked M.B.A. programs, and the curriculum is based on the curriculum delivered in those programs.

More program information, admissions requirements and application details can be found on the program website (https://onlinemba.unc.edu/) or by contacting the Admissions (http://www.kenan-flagler.unc.edu/programs/mba/) Team by phone: (888) 986-2622 or e-mail admissions@onlinebusiness.unc.edu.

Master of Accounting (On-Campus Format)

The UNC Kenan-Flagler master of accounting (M.A.C.) program's (http://www.kenan-flagler.unc.edu/programs/master-of-accounting/) unique approach to accounting and business education involves a challenging curriculum that integrates accounting with other business disciplines and emphasizes the application of accounting concepts to current business issues. The goal of the accounting and business courses is to create well-rounded accountants and business advisers who can compete in the business world. M.A.C. students take a broad but balanced series of accounting courses that focus on skill development, problem solving, and decision making in business situations. The core courses are designed specifically for M.A.C. students to emphasize accounting and business consulting skills. The program develops students' communication and leadership skills, giving them a competitive advantage in today's job market and enhancing their ability to succeed in the accounting profession.

The on-campus format of the M.A.C. program is open to students from any undergraduate major. The on-campus format of the M.A.C. program begins once each year in June and requires 48 credits of coursework. Admission is competitive and decisions are made on a rolling basis; applicants are encouraged to apply early.

For more information, please contact the M.A.C. Admissions Office (http://www.kenan-flagler.unc.edu/programs/master-of-accounting/), UNC Kenan-Flagler Business School, CB# 3490, McColl Building, The University of North Carolina at Chapel Hill, Chapel Hill, N.C. 27599-3490; (919) 962-3209; email mac_info@unc.edu.

Master of Accounting (Online Format)

Like the on-campus format of the M.A.C program, the online format involves a challenging curriculum that integrates accounting with other business disciplines and emphasizes the application of accounting concepts to current business issues.

The online format of the M.A.C program is designed for working professional students, providing flexibility with a duration of 12 to 36 months, dependent on the student's desired pace. The program is open to students from any undergraduate major. Students may start the online format in June, September, January, or March. Students are required to complete 36-48 credits of coursework, depending on approved transfer credit.

An Advanced Standing option is available for applicants who have previously studied accounting at the undergraduate level. Students who are eligible for the Advanced Standing pathway must complete 30 credits of coursework.
Admission is competitive and decisions are made on a rolling basis; applicants are encouraged to apply early.

For more information, please contact the M.A.C. Admissions Office (http://www.kenan-flagler.unc.edu/programs/master-of-accounting/), UNC Kenan-Flagler Business School, CB# 3490, McColl Building, The University of North Carolina at Chapel Hill, Chapel Hill, N.C. 27599-3490; (919) 962-3209; email mac_info@unc.edu.

Master of Management

The UNC Kenan-Flagler master of management (M.S.M.) program provides a foundational and rigorous program of study in the field of business, equipping individuals with the essential skills and knowledge

necessary for successful business careers across multiple industries. We cultivate future leaders by emphasizing professionalism, teamwork, and a strategic mindset. Our program prepares graduates to make an immediate impact in their professional endeavors. In achieving these goals, we maintain and enhance our national recognition as a top-tier provider of graduate management education among our academic peers and professional constituents.

The M.S.M program is designed for students who did not study business at the undergraduate level and is intended for those with 0-2 years of work experience. The M.S.M. program begins once each year in August and requires 30 credits of coursework. Admission is competitive and decisions are made on a rolling basis; applicants are encouraged to apply early.

For more information, please contact the M.A.C. Admissions Office (http://www.kenan-flagler.unc.edu/programs/master-of-accounting/), UNC Kenan-Flagler Business School, CB# 3490, McColl Building, The University of North Carolina at Chapel Hill, Chapel Hill, N.C. 27599-3490; (919) 962-3209; email mac_info@unc.edu.

Doctor of Philosophy

The Ph.D. program in business administration is designed for individuals who plan careers in research and teaching. A limited number of students are admitted each year, resulting in a high-quality learning environment that emphasizes rigor and personal attention. Although many students enter the program with an M.B.A., this degree is not a requirement for admission. However, an M.B.A. from an accredited institution usually allows the student to waive some of the business fundamentals requirements. Prior to admission to the doctoral program, students are expected to have knowledge of elementary calculus and basic computer skills. A foreign language is not required for graduation from the program. Research and teaching assistantships are available on a competitive basis.

The requirements for the Ph.D. in business administration are as follows:

- Business Fundamentals. All Ph.D. students are expected to possess or to acquire a basic knowledge of accounting, finance, marketing, organizational behavior, and production. This requirement involves a level of competence roughly equivalent to the M.B.A. core courses on these topics. Most students entering with an M.B.A. or similar degree meet this requirement without additional coursework. Appropriate courses will be recommended for students who do not meet this requirement prior to beginning the program.
- Economics. All Ph.D. students are expected to possess or to acquire knowledge of microeconomic and macroeconomic theory. The basic requirement is an M.B.A. or graduate-level course on each topic. Once again, most students with an M.B.A. meet this requirement without additional coursework. However, individual areas within the business school (e.g., finance) may require that students take specific courses after entering the program to meet this requirement. Appropriate courses will be recommended for students who do not meet this requirement prior to beginning the program.
- Research Methods/Quantitative Methodologies. All Ph.D. students are required to take five courses (15 hours) in research methods/quantitative methodologies. At least one course (three hours) must be a research methods course covering topics such as the philosophy of science, research design, sample selection, etc. At least three of the courses (nine hours) must focus on quantitative methodologies such as statistics, operations research, econometrics, etc. The fifth course (three hours) may be a more specialized research methods course (e.g., survey research, lab experimentation) or another quantitative methodologies course.
- Major Area of Concentration. All Ph.D. students are required to declare a major area. The major area consists of six courses (18 hours). Students may concentrate in one of the following areas:
  - Accounting
  - Operations
  - Finance
  - Organizational Behavior
  - Marketing
  - Strategy and Entrepreneurship

These courses may be a combination of required courses offered within the major area, required courses offered outside of the major area, or approved elective courses.

- Supporting Area. All Ph.D. students are required to declare a supporting area. The supporting area consists of four courses (12 hours). The supporting area allows the student to develop a strong expertise in an area related to the student's research and teaching interests. These courses are usually drawn from a single area within the business school or from a specific outside department, but a student may assemble four courses from more than one area if the courses represent a coherent package.
- Research Paper. During the summer and fall following the first year, all Ph.D. students are required to complete a research paper. The paper must be evaluated and approved by the student's faculty. The primary purpose of this paper is to provide the student with important research experience and to develop research and writing skills. Most of these papers are later presented at professional meetings, and many lead to publication. Some papers develop into dissertations.
- Comprehensive Examination. All Ph.D. students must pass a written comprehensive examination on the student's major area of concentration and on relevant material from the other requirements. Students usually take this examination after completing coursework, typically at the end of the second year. Some areas may require an oral examination after completion of the written examination.
- Dissertation. All Ph.D. students are required to complete a dissertation prior to graduation from the program. The dissertation is a thorough theoretical and empirical investigation of a specific problem important to the student's major area. The dissertation's value is in its contribution to knowledge, in the scholarly manner in which it is organized and presented, and in the demonstrated development of the student's conceptual and research skills. Before substantial work on the dissertation is undertaken, a written dissertation proposal must be presented and approved by the student's dissertation committee. In most cases, the dissertation proposal is completed during the student's third or fourth year in residence and the dissertation is completed during the fifth year.
- Teaching and Research. All students are required to serve as teaching assistants for at least one semester and as research assistants for at least one semester. Students are also required to work with faculty members prior to that semester on the development of their teaching skills.

Professors

Sridhar Balasubramanian, Marketing
Barry Bayus, Marketing
Christopher Bingham, Strategy and Entrepreneurship
Gregory W. Brown, Finance

Norris Bruce, Marketing
Robert Bushman, Accounting
Michael Christian, Organizational Behavior
Riccardo Colacito, Finance
Vinayak Deshpande, Operations
Jeffrey Edwards, Organizational Behavior
Mary Margaret Frank, Accounting
Paolo Fulghieri, Finance
Eric Ghysels, Finance
Rajdeep Grewal, Marketing
Isin Guler, Strategy and Entrepreneurship
John R. M. Hand, Accounting
David Hartzell, Finance
David A. Hofmann, Organizational Behavior
Jeffrey Hoopes, Accounting
James H. Johnson Jr., Strategy and Entrepreneurship
Saravanan Kesavan, Operations
Camelia Kuhnen, Finance
Eva Labro, Accounting
Wayne Landsman, Accounting
Mark Lang, Accounting
Christian Lundblad, Finance
William Maddux, Organizational Behavior
Arvind Malhotra, Strategy and Entrepreneurship
Edward Maydew, Accounting
Shimul Melwani, Organizational Behavior
Adam Mersereau, Operations
Marie Mitchell, Organizational Behavior
Atul Nerkar, Strategy and Entrepreneurship
Paige Ouimet, Finance
Ali Parlakturk, Operations
David Ravenscraft, Finance
Adam Reed, Finance
Jacob Sagi, Finance
Albert Segars III, Strategy and Entrepreneurship
Anil Shivdasani, Finance
Bradley Staats, Operations
Jan-Benedict Steenkamp, Marketing
Jayashankar M. Swaminathan, Operations
Sriram Venkataraman, Marketing

Associate Professors

Sekou Bermiss, Strategy and Entrepreneurship
Jesse Davis, Finance
Sreedhari Desai, Organizational Behavior
Seyed Emadi, Operations
John Gallemore, Accounting
Wendell Gilland, Operations
Stephen Glaeser, Accounting
Olga Hawn, Strategy and Entrepreneurship

Bradley Hendricks, Accounting
Yunzhi Hu, Finance
Matthew Pearsall, Organizational Behavior
Jana Smith Raedy, Accounting
Gill Segal, Finance
Elad Sherf, Organizational Behavior
Elena Simintzi, Finance
Nur Sunar, Operations
Yuqian Xu, Operations

Assistant Professors

Charlie An, Strategy and Entrepreneurship
Aymeric Bellon, Finance
Andrew Boysen, Strategy and Entrepreneurship
Christine Choi, Strategy and Entrepreneurship
Daniela De la Parra, Accounting
Chloe Glaeser, Operations
Abhinav Gupta, Finance
Kristopher Keller, Marketing
Ingrid Koch, Marketing
Tim Kundro, Organizational Behavior
Saman Lagzi, Operations
Fei Long, Marketing
Vrinda Mittal, Finance
Sajad Modaresi, Operations
Navid Mojir, Marketing
Timothy Ott, Strategy and Entrepreneurship
Christopher Petsko, Organizational Behavior
Franklin Qian, Finance
Sandeep Rath, Operations
Daniel Ringel, Marketing
Mirela Sandulescu, Finance
Donghwa Shin, Finance
Laura Sonday, Organizational Behavior
Sibel Sözüer, Marketing
Andreas Stathopoulos, Finance
Longxiu Tian, Marketing
Audra Wormald, Strategy and Entrepreneurship

Clinical Professors

Tamara Barringer, Legal Studies
Sharon Cannon, Management and Corporate Communication
Jessica Christian, Organizational Behavior
Paul Friga, Strategy and Entrepreneurship
Patricia Harms, Management and Corporate Communication
Courtney Knoll, Accounting
Claudia Kubowicz Malhotra, Marketing
Michael Meredith, Management and Corporate Communication
Mabel Miguel, Organizational Behavior
Heidi Schultz, Management and Corporate Communication
Chip Snively, Finance
Judy Jones Tisdale, Management and Corporate Communication
Patrick Vernon, Strategy and Entrepreneurship
Ted Zoller, Strategy and Entrepreneurship

Clinical Associate Professors

Art Baker, Finance
Lori Boyer, Management and Corporate Communication
Manoj Chari, Operations
Travis Day, Strategy and Entrepreneurship
Tim Flood, Management and Corporate Communication
Melissa Geil, Management and Corporate Communication
Jenna Haugen, Management and Corporate Communication

Stephanie Mahin, Management and Corporate Communication

Arzu Ozoguz, Finance
Christine Porath, Organizational Behavior

Allison Schlobohm, Management and Corporate Communication

Clinical Assistant Professors

Alex Arapoglou, Finance
Mike Beeler, Operations
Ivonne Chirino-Klevans, Organizational Behavior
Lynn Dikolli, Accounting
Gregory Hohn, Management and Corporate Communication
Margot Howard, Accounting
Erin Long, Organizational Behavior
Terence McElroy, Organizational Behavior
Kelley O'Brien, Management and Corporate Communication
Tanja Snively, Accounting
Amanda Thompson, Finance
Annie Williams, Marketing
Kimberley Williams, Management and Corporate Communication
Kristin Wilson, Strategy and Entrepreneurship
Courtney Wright, Management and Corporate Communication

Professors of the Practice

Stephen Arbogast, Finance
LaChaun Banks, Strategy and Entrepreneurship
Karin Cochran, Strategy and Entrepreneurship
Alex Dickey, Strategy and Entrepreneurship
Doug Guthe, Operations
Eric Maribojoc, Finance
Mark McNeilly, Marketing
Jeffrey Mittelstadt, Strategy and Entrepreneurship
Markus Saba, Marketing
Pramita Saha, Finance
James D. Spaeth, Finance

Adjunct, Practice, and Affiliated

https://www.kenan-flagler.unc.edu/faculty/adjunct-practice-affilated/

BUSI

Advanced Undergraduate and Graduate-level Courses

BUSI 401. Management and Corporate Communication. 3 Credits.
Open to business majors. Writing- and speaking-intensive course that emphasizes professional communication. Provides opportunities to learn and apply the conventions and expectations for standard business documents and presentations. Features strategies for addressing informative, persuasive, and bad-news messages using a variety of media (print documents, electronic messages, and oral presentations).

Rules & Requirements
IDEAs in Action Gen Ed: COMMBEYOND.
Grading Status: Letter grade.

BUSI 402. Applied Microeconomics for Business. 1.5 Credits.
The course emphasizes the application of economic analysis to solve a range of practical business problems that fall into one of these broad categories. The course makes regular use of mathematics (elements of algebra, geometry, and calculus), and includes a solution of optimization problems using Excel. Students may not receive credit for both BUSI 402 and ECON 410.

Rules & Requirements
Requisites: Prerequisite, ECON 101.
Grading Status: Letter grade.

BUSI 403. Operations Management. 3 Credits.
Analysis of the operations functions in both manufacturing and service organizations. Formulating operational policies that improve efficiency and support high-level business strategy. Developing remedies that mitigate uncertainty and variability in operational processes.

Rules & Requirements
Grading Status: Letter grade.

BUSI 404. Business Ethics. 1.5 Credits.
An examination of ethical issues that affect business.

Rules & Requirements
Grading Status: Letter grade.

BUSI 405. Leading and Managing: An Introduction to Organizational Behavior. 3 Credits.
An introduction to leading and managing in organizations. Examines the impact of individual, group, and organizational factors on organizational performance and employee attitudes. Topics include leadership, perceptions, attitudes, motivation, group development, norms and cohesiveness, empowerment, conflict, negotiations, culture, structure, stress, innovation, and change.

Rules & Requirements
IDEAs in Action Gen Ed: FC-KNOWING.
Grading Status: Letter grade.

BUSI 406. Marketing. 3 Credits.
Introduction to marketing with emphasis on the social and economic aspects of distribution, consumer problems, marketing functions and institutions, marketing methods and policies.

Rules & Requirements
Grading Status: Letter grade.

BUSI 407. Financial Accounting. 3 Credits.
Students will acquire the tools to understand and analyze information presented in corporate financial statements. Financial accounting results and projected results are utilized in virtually every segment of the business world. Knowledge of financial accounting and analysis is necessary for managers, investors, bankers, financial analysts, and professional accountants.

Rules & Requirements
Grading Status: Letter grade.

BUSI 408. Corporate Finance. 3 Credits.
Theoretical foundations of optimal financial policy. Problems and cases provide application of theory to financial decisions involving cash flow, capital structure, and capital budgeting.

Rules & Requirements
Requisites: Prerequisite, ECON 101.
Grading Status: Letter grade.

BUSI 409. Advanced Corporate Finance. 1.5 Credits.
A follow-up course to BUSI 408 that goes more deeply into the theory and application of financial management. Emphasis is placed on investment, financing, and dividend decisions. Honors version available.

Rules & Requirements
Requisites: Prerequisite, BUSI 408.
Grading Status: Letter grade.

BUSI 410. Business Analytics. 3 Credits.
While witnessing an explosion of data, most organizations tend to be awash with data but short on information. This course exposes students to techniques that will help them impact on an organization's strategy, planning, and operations, working on applications spanning a number of fields, including operations management, finance, and marketing.

Rules & Requirements
Requisites: Prerequisite, STOR 155.
Grading Status: Letter grade.

BUSI 411. Strategy I: Competitive Strategy. 1.5 Credits.
Students analyze sources of competitive advantage in business organizations using case analysis and written reports to develop analytical reasoning skills for assessing forward looking opportunities for the company. The emphasis is on industry analysis and organizational analysis and the development and management of firm specific competencies for successful growth.

Rules & Requirements
Grading Status: Letter grade.

BUSI 412. Strategy II: Global Corporate Strategy. 1.5 Credits.
Taught through the case method from a general manager's perspective, students learn to manage a corporation, focusing on the firm's scope of operations. The course emphasizes corporate expansion strategies, including horizontal, vertical, and global diversification, along with execution modes such as internal development, alliances, and mergers and acquisitions.

Rules & Requirements
Requisites: Pre- or corequisite, BUSI 411.
Grading Status: Letter grade.

BUSI 442. Teams at UNC. 1 Credits.
This course examines the culture and leadership of teams. The focus is on the interpersonal processes and culture that influence the effectiveness of teams. The purpose of this course is to understand the theory and processes of group and team behavior so that leaders can successfully understand, inspire, and influence others. As you advance in your athletic and professional career, you will likely find that your time is increasingly focused on leading and harnessing the efforts of others rather than relying on your own talent or technical skills.

Rules & Requirements
Grading Status: Pass/Fail.

BUSI 444. Flourishing: Coaching and Leadership. 1.5 Credits.
This engaged, experiential course focuses on how to facilitate your and others' flourishing. Effective coaching and leadership requires you to be self-aware and able to understand, motivate, and influence others. This course focuses on understanding and developing your mindset and skills, increasing your self-awareness and growth as a coach and leader, and influencing others. Students may not receive credit for both BUSI 444 and BUSI 555. Course is designated for student athletes.

Rules & Requirements
Grading Status: Letter grade.

BUSI 463. Corporate Environmental Stewardship. 3 Credits.
This course explores the intersection of business/economic growth and the major sustainability issues affecting the environment and societal well-being and raises questions about business ethics and the moral responsibility of business leaders, consumers, and citizens. Previously offered as ENEC 306.

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL or FC-VALUES.
Requisites: Prerequisite, ENEC 201.
Grading Status: Letter grade.
Same as: ENEC 463.

BUSI 470. Storytelling to Influence and Inspire. 1.5 Credits.
Whether communicating to a single person, a small team, a company, or the world, stories help you cut through information clutter to explain your brand, articulate your vision, inspire buy-in, offer hope, and sell ideas. Considering that, this course - through lecture, discussion, readings, workshops, thinking time, and practice - gives you the tools you need to be a confident storyteller in the workplace and thus influence and inspire most everyone in your professional sphere.

Rules & Requirements
Grading Status: Letter grade.

BUSI 475. Nonprofit Leadership: Strategies and Practices. 3 Credits.
This course equips students with essential nonprofit leadership skills through hands-on, community-based projects. Students will explore leadership theories, develop project management skills, and partner with local nonprofits to tackle real-world challenges. The course emphasizes ethical decision-making, team inspiration, and reflective practice, preparing students to lead in the nonprofit sector.

Rules & Requirements

IDEAs in Action Gen Ed: FC-VALUES, HI-SERVICE.
Grading Status: Letter grade.

BUSI 487. Creating Data-Driven Business Insights: Databases and Visualization. 1.5 Credits.
This course teaches students to transform real-time business data into actionable insights using descriptive analytics. Students will first learn the basics of relational databases and the ETL process using Alteryx, followed by SQL code for database interactions. In the final section, students apply descriptive analytics and create compelling visualizations using Tableau. Real-world case studies reinforce practical skills in querying, analyzing, and visualizing data to answer business questions. Emphasis is placed on self-teaching through AI tools like ChatGPT and Bard. The course is fast-paced, covering Alteryx, SQL, and Tableau to prepare students for data-driven decision-making.

Rules & Requirements
Grading Status: Letter grade.

BUSI 488. Data Science in the Business World. 3 Credits.
Business and Computer Science students join forces in this course to create data-driven business insights. We transgress the data science pipeline using cloud computing, artificial intelligence, and real-world datasets. Students acquire hands-on skills in acquiring data, wrangling vast unstructured data, building advanced models, and telling compelling stories with data that managers can understand.

Rules & Requirements
Grading Status: Letter grade.
Same as: COMP 488.

BUSI 490. Business Topics. 1.5 Credits.
Varied topics in business administration. Honors version available.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 9 total credits. 6 total completions.
Grading Status: Letter grade.

BUSI 493. Business Internship Project II. 1.5-3 Credits.
This course provides students with a format for reflection while performing a professional internship that enhances their ability to achieve career objectives. Previously offered as BUSI 593. Permission of the department.

Rules & Requirements

IDEAs in Action Gen Ed: HI-INTERN.
Grading Status: Letter grade.

BUSI 496. Independent Study in Business. 0.5-3 Credits.
Permission of the department. Supervised individual study and research in the student's special field of interest.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 3 total credits. 6 total completions.
Grading Status: Letter grade.

BUSI 500. Entrepreneurship and Business Planning. 3 Credits.
Students gain an understanding of entrepreneurship and the tools and skills necessary to conceive, plan, execute, and scale a successful new venture. Students develop business ventures in teams through an experiential pedagogy. Honors version available.

Rules & Requirements
Grading Status: Letter grade.

BUSI 501. Professional Selling Strategies and Skills. 1.5 Credits.
Critical concepts and skills for selling B2B products and services, and influencing others in business. Applicable to people considering sales or consulting as a career; to those thinking of starting an entrepreneurial company; or for those who want to understand how to influence peers, subordinates, and management.

Rules & Requirements
Grading Status: Letter grade.

BUSI 502. Entrepreneurial Finance. 1.5 Credits.
In this course students use financial tools and concepts in a real-world entrepreneurial setting. Working in assigned teams, students prepare a pitch book with financial projections for a company they wish to start or buy.

Rules & Requirements
Requisites: Prerequisite, BUSI 408.
Grading Status: Letter grade.

BUSI 503. Family Business I: Introduction to Family Enterprise. 1.5 Credits.
Addresses stages of a family enterprise and challenges/opportunities of each stage. Coursework synthesizes learning from core business subjects with practices common to successful family businesses. Focus is on developing management, governance, and family business leadership skills, with an emphasis on the importance of communication in the family; the creation of shared vision for the business; and alignment of family and business goals. The course includes live cases and student research on a family business.

Rules & Requirements
Grading Status: Letter grade.

BUSI 504. Startup UNC. 1.5 Credits.
This is a cross-campus course for exceptional students, staff, and faculty, designed to help launch UNC-Chapel Hill start-ups. Only for students serious about launching in the next nine to 12 months. Admission by online application. More information at www.launch.unc.edu.

Rules & Requirements
Requisites: Prerequisite, BUSI 500.
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 6 total credits. 4 total completions.
Grading Status: Letter grade.

BUSI 505. Entrepreneurial Consulting. 3 Credits.
Student teams engage in consulting projects to help a wide range of small business owners, early stage start-ups, and not-for-profit ventures tackle typical entrepreneurial challenges. Data is gathered through extensive fieldwork, such as client meetings, customer surveys, interviews with thought leaders, site visits, and product tests. Due to the heavy workload, students should not enroll in BUSI 505 and BUSI 554 concurrently.

Rules & Requirements

IDEAs in Action Gen Ed: HI-PERFORM.
Grading Status: Letter grade.

BUSI 506. Venture Capital Fundamentals. 1.5 Credits.
Venture capital plays a vital role in facilitating innovation and growth in our economy by providing funding and strategic guidance to promising startups. In this course, students will take a deep dive into the fascinating world of venture capitalists to learn what, where, when and how they do their jobs.

Rules & Requirements
Grading Status: Letter grade.

BUSI 507. Sustainable Business and Social Enterprise. 3 Credits.
This course concentrates on sustainability in existing businesses of all sizes, rather than starting new entrepreneurial ventures. Students will learn how to apply full triple bottom line sustainability in many industries/businesses and will explore how business fits into the sustainability landscape. Students develop skills using important innovation and sustainability frameworks (SASB, GRI, SDGs and more) that help identify profitable opportunities to simultaneously improve impact on society and the environment. Honors version available.

Rules & Requirements
Grading Status: Letter grade.

BUSI 508. Sustainable Business and Impact Entrepreneurship. 1.5 Credits.
Students develop skills to evaluate interactions between business and today's social, environmental, and economic challenges using the full triple bottom line. This course teaches sustainability frameworks (SASB, GRI, Circular Economy, U.N. Sustainable Development Goals, etc.) and strategies to go beyond reducing negative impacts and mitigating risk to identifying market opportunities for innovative solutions with positive impact. It focuses on simultaneously improving social and environmental impact, while driving profitability. Students can explore existing entrepreneurial ventures.

Rules & Requirements
Grading Status: Letter grade.

BUSI 509. Entrepreneurs Lab: Advanced Entrepreneurial Insight and Leadership. 3 Credits.
This course explores the key issues associated with the entrepreneurial career and the lessons of success and failure with a goal to reinforce a high-performance entrepreneurial mindset. Students will engage with thought leaders to learn the lessons of entrepreneurship and design a plan for their future as an entrepreneurial leader. The course is designed for students who are committed and currently engaged actively in pursuing an entrepreneurial career path as a founder or as part an entrepreneurial venture or private growth company, either during their program, immediately after graduation, or over the course of their early career. Honors version available.

Rules & Requirements
Grading Status: Letter grade.

BUSI 510. The Challenge of Healthcare: A System Overview. 1.5 Credits.
This course provides an overview of health care in the US from a business perspective. Students will be introduced to the structure and component parts of the health care system and will study basic economic issues, public policies, and market developments as they impact the industry and the delivery of care/services. The course covers the P's of healthcare-providers, payers, producers, and patients. Includes a mix of cases, articles and guest speakers.

Rules & Requirements
Grading Status: Letter grade.

BUSI 511. Regional Venture Capital Immersion. 1.5 Credits.
Application-based course. This course gives a selected group of undergraduate students the opportunity to study venture capital by traveling to two different entrepreneurial regions of the United States, Europe, and/or Asia, with the goal of understanding how this subclass of private equity plays an integral role in the commercialization of disruptive technologies.

Rules & Requirements
Requisites: Prerequisite, BUSI 506.
Repeat Rules: May be repeated for credit. 3 total credits. 2 total completions.
Grading Status: Letter grade.

BUSI 512. Family Business II: Governance and Ownership. 1.5 Credits.
This course is a continuation of BUSI 503 and will delve more deeply into specific governance and ownership considerations for family-owned firms. The purpose of this course is to prepare students to be more effective in their own family enterprise as a non-family executive in a family business, or as an advisor to a family business. This course outlines the specific ownership, stewardship, tax, and transition issues that affect family enterprises.

Rules & Requirements
Requisites: Prerequisite, BUSI 503.
Grading Status: Letter grade.

BUSI 513. Venture Capital in Action. 1.5 Credits.
This course is a combination of lectures, guest speakers and an extended experiential learning exercise in which students play the role of associates in a venture capital firm evaluating startups as investment opportunities. Real startups will be our live case studies, and founders will pitch to students and answer their questions. Venture capitalists will come to class to share their approach to investing.

Rules & Requirements
Requisites: Prerequisite, BUSI 506; Pre- or corequisite, BUSI 502.
Grading Status: Letter grade.

BUSI 514. STAR - Experiential Learning Project. 4.5 Credits.
Student Teams Achieving Results (STAR) is a live management consulting project that leverages and integrates UNC Kenan-Flagler course curricula. Teams of five to seven M.B.A. and undergraduate students and one faculty member work with major corporations or not-for-profit entities to address a business challenge in strategy, marketing, operations etc. Offers deep exposure to an industry and company culture. Encourages skill development in teamwork, analysis, research, and executive presentations. Honors version available.

Rules & Requirements
IDEAs in Action Gen Ed: HI-PERFORM.
Requisites: Pre- or corequisite, BUSI 554.
Repeat Rules: May be repeated for credit. 9 total credits. 2 total completions.
Grading Status: Letter grade.

BUSI 517. Private Equity and Debt Markets. 1.5 Credits.
The objective of this course is to examine the changing world of private equity investments today. This is a survey course and will help prepare you to work for private equity and venture capital funds or to work for investment banks.

Rules & Requirements
Requisites: Prerequisite, BUSI 408.
Grading Status: Letter grade.

BUSI 518. Applied Private Equity. 3 Credits.
Permission of the instructor. Explores, at a very advanced level, all stages of the management of a venture capital and private equity fund, from capital formation, deal sourcing, due diligence, monitoring and adding value, and exiting of a portfolio company. Honors version available.

Rules & Requirements
Requisites: Prerequisites, BUSI 502 and 517.
Repeat Rules: May be repeated for credit. 9 total credits. 3 total completions.
Grading Status: Letter grade.

BUSI 520. Advanced Spreadsheet Modeling for Business. 3 Credits.
Primarily online class. Students will use advanced features of Microsoft Excel to create efficient, flexible spreadsheet models of common and complex business problems. This is an extremely practical class in which skills learned can be put to immediate use in other classes, the workplace, and elsewhere. Topics: spreadsheet best practices, shortcuts and time-savers, flexible design, problem-solving, statistical analysis, charting, logic, reference functions, financial analysis, organizing data for complex analysis, what-if analysis, enhanced decision-making, and VBA.

Rules & Requirements
Grading Status: Letter grade.

BUSI 521. Design Thinking: The Innovation Process for Complex Problems. 3 Credits.
The class teaches real world innovation -- creativity, improvisation, and design thinking -- through experiential learning and iterative project-based learning. Students will develop fluency in 21st century skills. These include storytelling, logo development, website design, video editing, audio and podcast editing, budgeting, postcard and flyer design, etc. In addition, students will discuss key innovations that will likely change their careers and lives: artificial intelligence, gene editing, autonomous vehicles, etc.

Rules & Requirements
Grading Status: Letter grade.

BUSI 522. Personal Branding and Professional Relationships. 1.5 Credits.
In this course, students will develop authentic personal brands, learn how to communicate their brands in service of building professional relationships, and create sustainable plans for managing and enjoying the relationships they build. By the end of the course, students should possess a growing list of promising professional contacts and feel confident when discussing themselves and their accomplishments with others.

Rules & Requirements
Grading Status: Letter grade.

BUSI 523. Diversity and Inclusion at Work. 1.5 Credits.
Diversity and inclusion (D&I) is one of the most important topics of our time. Yet, increasing workplace diversity (and, most important, creating inclusion, belonging, and equity) is incredibly complex and challenging. In this class, you'll learn to: know what D&I programs work and don't; build inclusion, belonging, and equity (and not just diversity); implement D&I initiatives that make a difference; handle difficult conversations and conflict about and across difference; and generate open and honest dialogue.

Rules & Requirements
Grading Status: Letter grade.

BUSI 524. Applied Improvisation for Business Communication. 3 Credits.
Focuses on improving students' soft skills, such as presenting, expressiveness, and interviewing, by applying the principles and techniques of improvisational theater. Participants explore creativity, adaptation, awareness, self-confidence, risk taking, physicality, intuition, and teamwork. Students can stretch their abilities and discover things about themselves and others that are crucial to success.

Rules & Requirements
Grading Status: Letter grade.

BUSI 525. Advanced Business Presentations. 1.5 Credits.
This course is grounded in argument, persuasion, and visual rhetoric to give students skills needed to develop winning presentations. Students learn strategies to help their messages "stick" with their audiences and to develop slide decks for the boardroom and advanced media devices. The course emphasizes efficiency in presentation preparation.

Rules & Requirements
Requisites: Prerequisite, BUSI 401.
Grading Status: Letter grade.

BUSI 526. Leadership in Action. 3 Credits.
Permission of the department. Provides student leaders with practical leadership frameworks and tools; creates opportunities to apply these on the job as leaders; and provides individualized coaching, feedback, and mentoring. This is an applied learning course taught by a seasoned practitioner designed to accelerate each student's development and growth.

Rules & Requirements
Grading Status: Letter grade.

BUSI 527. Gender at Work. 1.5 Credits.
Taylor Swift's sexual assault lawsuit, the infamous Google memo, workplace harassment, paid paternity leave (Mark Zuckerberg took off 4 weeks!): Our era has been marked by a #MeToo ripple effect. Gender topics impact every employee, organization, and industry. You will explore these timely and tricky topics and understand how and why they affect you, teams, and organizations. Topics include gender facts, myths, perceptions, stereotypes, recruiting, hiring, pay gaps, current topics, problems, and solutions.

Rules & Requirements
Grading Status: Letter grade.

BUSI 528. Leadership Communication. 1.5 Credits.
This course provides students opportunities to practice and develop communication skills that will help them make an impact on the job and further their careers. Students will work to improve interpersonal and presentation skills related to navigating difficult interpersonal challenges, resolving conflicts, tackling difficult discussion topics, giving and receiving feedback, communicating with respect in diverse environments, listening, and networking.

Rules & Requirements
Grading Status: Letter grade.

BUSI 529. Intercultural Communication in the Global Workplace. 1.5 Credits.
Developing patterns of respectful intercultural communication is an increasingly important goal for the growth of business across the globe. This class will examine interesting and problematic issues surrounding cross-cultural communication, help students understand the complexity and variety of cultures, and teach communication strategies for success in conducting business across diverse cultures.

Rules & Requirements
Grading Status: Letter grade.

BUSI 530. Corporate Communication: Social Advocacy and Activism. 1.5 Credits.
This course examines concepts of civility, virtue signaling, and corporate legitimacy. Throughout the course, students are presented with cases, concepts, and ideas of why a corporation may choose to participate in social good as an advocate/activist for a social and/or political cause. Similarly, students learn applied strategies to become communicators of corporate change in their fields and organizations.

Rules & Requirements
Grading Status: Letter grade.

BUSI 532. Healthcare and Service Operations Management. 3 Credits.
This course will teach you how to design, manage, and improve the performance of service organizations through a structured analysis of firm operations. You will learn strategic analysis and operational decision-making for service firms. You will also learn how to effectively leverage data and analytics towards improved operating performance and customer satisfaction. This course will cover case studies from healthcare, e-commerce, hospitality, transportation, and online marketplaces. Honors version available.

Rules & Requirements
Requisites: Prerequisite, BUSI 403.
Grading Status: Letter grade.

BUSI 533. Supply Chain Management. 3 Credits.
Analyzes the key drivers of supply chain performance including inventories, transportation, information technology, and sourcing. Studies strategies for supply chain coordination, and challenges and opportunities in global supply chains. A supply chain simulation is used. Honors version available.

Rules & Requirements
Requisites: Prerequisite, BUSI 403.
Grading Status: Letter grade.

BUSI 536. Project Management. 1.5 Credits.
Permission of the department. This course prepares students to take part in and lead projects effectively. The goal is to equip individuals across any career concentration rather than extend the expertise of project-management specialists. Students may not receive credit for both BUSI 536 and MBA 710.

Rules & Requirements
Requisites: Prerequisite, BUSI 403.
Grading Status: Letter grade.

BUSI 537. Retail Operations. 1.5 Credits.
Permission of the department. Examines developments in retailing and operations management principles applicable to these developments. Topics: consumer behavior, demand forecasting, logistics and distribution, store execution, international retailing, internet-based retailing, performance assessment, and impact on financial performance. Students may not receive credit for both BUSI 537 and MBA 708.

Rules & Requirements
Requisites: Prerequisite, BUSI 403.
Grading Status: Letter grade.

BUSI 538. Sustainable Operations. 1.5 Credits.
This course explores the link between sustainability and the operations function of a firm. The course focuses on the following activities: product and process design; manufacturing; transportation; logistics and distribution; closed-loop/after-sales operations such as recycling, remanufacturing, and reuse; supply chain management.

Rules & Requirements
Requisites: Prerequisite, BUSI 403.
Grading Status: Letter grade.

BUSI 539. Health Care Operations. 1.5 Credits.
Permission of the department. Students apply principles and tools of operations management to explore improvement opportunities in the design, delivery, and management of the health care value chain. The course examines the health care operation from the perspective of operations metrics such as cost, quality, time (access), and variety/customization.

Rules & Requirements
Requisites: Prerequisite, BUSI 403.
Grading Status: Letter grade.

BUSI 540. Leadership for Wicked Problems. 1.5 Credits.
This course tackles global "wicked problems" such as inequality, climate change, and political polarization. Students will learn leadership theory, meet leaders, and analyze their successes and failures. The course focuses on problem-solving, teaching students how to approach issues from multiple perspectives, think holistically, and address the ethical dimensions of business decisions. Through case studies and interdisciplinary thinking, students will refine their leadership identity, cultivate adaptability, and develop the skills to make a meaningful impact on complex, evolving challenges.

Rules & Requirements
Grading Status: Letter grade.

BUSI 545. Negotiations. 1.5 Credits.
This course enables students to develop their expertise in managing negotiations. It integrates existing theory and research with personal experiences and ideas. Using hands-on exercises, readings, and lively discussions, students build and hone their ability to understand, adapt to, and evaluate the personal, social, and situational dynamics of negotiations.

Rules & Requirements
Requisites: Prerequisite, BUSI 405.
Grading Status: Letter grade.

BUSI 546. Sport Marketing and Media. 1.5 Credits.
This course provides an in-depth analysis of the effect of marketing and media on the sport industry. Key issues include the increasing growth of television and technological advances, changing consumer demographics and behaviors, and sponsorship relations. The course will be divided into three key areas: rights holders, media, and corporate sponsorship (brands).

Rules & Requirements
Grading Status: Letter grade.

BUSI 547. Managerial Decision Making. 1.5 Credits.
Behavioral economics provides an understanding of how people's decisions deviate from "optimal" choices and consequences of such deviations. This course will not only discuss when individuals make decisions that deviate from the predictions of economics, but also focus on the implications of these systematic decision biases for managers and policy makers.

Rules & Requirements
Requisites: Prerequisite, BUSI 405.
Grading Status: Letter grade.

BUSI 548. Financing Affordable Housing. 1.5 Credits.
Housing affordability is a pressing issue with widespread implications. This course delves into the history and dynamics of U.S. housing markets, exploring the factors behind declining affordability. Students also study the affordable housing sector's evolution, with a focus on financing rental and for-sale properties. Topics encompass financial analysis, rent and income limits, project capitalization, low-income housing tax credits (LIHTC), equity sources, gap funding, and strategies for bolstering affordable housing supply.

Rules & Requirements
Requisites: Pre- or corequisites, BUSI 408 and BUSI 585.
Grading Status: Letter grade.

BUSI 550. People Analytics. 1.5 Credits.
This course introduces students to major topics in People Analytics and how using a data-driven human capital strategy can improve organizational performance (e.g., revenue, stock price, customer satisfaction, retention, etc.) and sustain competitive advantage. In this course students will exercise critical thinking skills by analyzing how managers apply human capital strategies in practice. Development of skills in problem solving, creative thinking, written and oral communication, are the main objectives of this course.

Rules & Requirements
Grading Status: Letter grade.

BUSI 552. Strategic Innovation. 1.5 Credits.
This course is designed for undergraduate business students interested in innovation and entrepreneurship inside established firms. It focuses on the art of bringing novel ideas and products to market while working inside a company. This course will help you understand the barriers to innovation inside existing firms, learn the tools and techniques for overcoming these, and develop an entrepreneurial mindset.

Rules & Requirements
Grading Status: Letter grade.

BUSI 554. Consulting Skills and Frameworks. 3 Credits.
Permission of the instructor. The course is dedicated to teaching the core skills for success in consulting and business in general: teamwork, analysis, and presentations. Honors version available.

Rules & Requirements
Requisites: Pre- or corequisite, BUSI 408.
Grading Status: Letter grade.

BUSI 555. Groups and Teams in Organizations. 1.5 Credits.
Examines the design, management, and leadership of teams in organizational settings. Focus is on the interpersonal processes and structural characteristics that influence the effectiveness of teams, individual behavior in face-to-face interactions, and the dynamics of interpersonal relationships.

Rules & Requirements
Requisites: Prerequisite, BUSI 405.
Grading Status: Letter grade.

BUSI 556. Thinking Creatively: Cognitive Tools for Individuals and Teams. 1.5 Credits.
This course blends insights from cognitive and organizational psychology to nurture creativity as a process and develop applied skills. Students will learn to recognize the need for creativity, change their own thinking, and foster creativity in teams and organizations. It operates on the assumptions that creative thinking is essential across professions, creativity is a learnable skill, and it complements domain expertise and analytical skills. The course emphasizes experiential learning through exercises, simulations, and discussions.

Rules & Requirements
Grading Status: Letter grade.

BUSI 558. Digital Marketing. 3 Credits.
The main concepts of marketing are identifying market opportunity (3C analysis), setting the target strategy (STP analysis) and implementation via 4P strategies. This course will discuss online consumer behavior; internet marketing strategy; online and digital advertising; social media. It will focus on strategic perspective, rather than on technical details.

Rules & Requirements
Requisites: Prerequisite, BUSI 406.
Grading Status: Letter grade.

BUSI 559. Product Management. 3 Credits.
Product managers oversee innovation, development, and profit generation. Their roles, previously dispersed, now integrate various functions for better coordination. This course equips you with analytical and creative skills essential for modern product management. Professors with research expertise cover topics including customer insights, product-market fit, and growth strategies. Emphasis is on practical frameworks.

Rules & Requirements
Grading Status: Letter grade.

BUSI 562. Consumer Behavior. 3 Credits.
A business's success relies on fulfilling its consumers' wants and needs, but how does a business effectively do this? This course blends theory with practice to explore how consumers' information processing, decision making, and purchase decisions are influenced by such factors as their values, psychological motivations, and social and cultural forces. In doing so, a deeper understanding of how to target and reach consumers, as well as how to influence their behavior is learned.

Rules & Requirements
Grading Status: Letter grade.

BUSI 563. Retail & E-tail Marketing. 1.5 Credits.
E-commerce puts severe pressure on both brand manufacturers and retailers. Brick and mortar players are expanding online operations, while online retailers are going physical. In the face of this complexity, it is important to take stock of current knowledge, based on insights and experience from leading practitioners and researchers in the field. This course sheds light on the strategic and tactical issues that comprise the state of the art in retailing.

Rules & Requirements
Grading Status: Letter grade.

BUSI 564. Design Thinking and Product Development. 3 Credits.
Traditional marketing research (focus groups, surveys) is being complemented by design thinking and Web 2.0 approaches. This course will introduce several tools and techniques that are used in the design thinking process (empathy, define, ideate, prototype, test). A sampling of topics includes: creativity and brainstorming, empathy maps, personas, journey mapping, mind mapping, prototyping, storyboarding, intellectual property basics, and open innovation (crowdsourcing/crowdfunding). Key concepts will be learned via several in and out of class hands-on exercises.

Rules & Requirements
Grading Status: Letter grade.

BUSI 565. Marketing Research Design and Analysis. 3 Credits.
An introduction to research methodology with emphasis on the compilation, analysis, and interpretation of data used in the planning and control of marketing operations.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Requisites: Prerequisite, BUSI 406.
Grading Status: Letter grade.

BUSI 566. Marketing Strategy: Sustainable Competitive Advantage in Dynamic Environments. 3 Credits.
This course addresses all aspects of a firm's overall strategy, from market selection to prioritization to marketing tactics. The flow of the course mirrors the strategic and tactical development processes that are used in practice with companies today: Choice of Markets; Choice of Customers and Discovery of Deep-Seated Customer Needs; and, on the Ground Strategic Execution. Course material will be reinforced through a course-long group project that requires integration and application of course principles.

Rules & Requirements
Requisites: Prerequisite, BUSI 406.
Grading Status: Letter grade.

BUSI 567. Customer Journeys. 3 Credits.
This course covers state-of-art tactics, concepts, and tools of customer lifecycle marketing, which is the business process of (1) selecting customers that a firm can most profitably serve, and (2) shaping interactions between a company and these customers. This customer journeys framework consists of the design, implementation, and analysis of strategic initiatives including identifying and undertaking profitable customer acquisition; understanding the drivers of attrition and retention; and data-driven attribution of marketing actions and product decisions.

Rules & Requirements
Requisites: Prerequisite, STOR 155.
Grading Status: Letter grade.

BUSI 568. Customer Insights and Analytics. 1.5 Credits.
Over the last 20-30 years, the way information and data have been collected and analyzed has undergone a substantial transformation. Firms have adopted marketing methods that are grounded in economic theory and utilize detailed data on customer transactions to generate insights into how customers behave. This course will provide students with a basic understanding of how to use data to understand customer behavior, and how these insights can be used to make managerially relevant decisions.

Rules & Requirements
Requisites: Prerequisite, STOR 155.
Grading Status: Letter grade.

BUSI 571. Strategic Cost Analysis and Performance Management. 1.5 Credits.
The objective of the course is to develop an understanding of the powerful role of strategic cost analysis and performance measurement in supporting decision-making, performance management and incentive alignment in a timely, efficient and effective manner. The course is intended as an introduction for individuals who will make business decisions, evaluate business units, and evaluate others through the use of cost and performance measurement systems.

Rules & Requirements
Grading Status: Letter grade.

BUSI 574. Taxes and Business Strategy. 3 Credits.
This course covers high-level topics related to tax planning that are relevant to future CEOs, CFOs, investment bankers, equity analysts, and marketing consultants. In this course, students will understand how taxes interact with other fields such as finance, accounting, law, marketing, human resources and compensation, operation management, risk management, etc.

Rules & Requirements
Requisites: Prerequisite, BUSI 407.
Grading Status: Letter grade.

BUSI 575. Financial Statement Analysis and Valuation. 1.5 Credits.
This course teaches students how to analyze financial statements so they will better understand firms' business decisions and strategies, sensibly forecast firms' financial statements, and sensibly value firms' equity. Using practical and interactive cases, plus mini-lectures, the goals are to teach students to: appreciate accruals and deferrals in accrual accounting vs. cash accounting; analyze earnings management, firm financial performance, revenues, expenses, assets, liabilities and equity.

Rules & Requirements
Requisites: Prerequisites, BUSI 407 and 408.
Grading Status: Letter grade.

BUSI 577. Projects for Investment Management Experiential-Learning. 3 Credits.
This course offers experiential learning in investment management through action-based projects with partner firms and weekly seminars. It focuses on preparing students for summer internships and full-time opportunities, tailored to individual career goals. Students will engage in peer learning, project discussions, and interact with guest speakers to connect theory with practice. The instructor will mentor students in both group and individual sessions, offering career guidance and connecting them with field experts. The course structure will evolve with student input, ensuring relevant and personalized content. Application required.

Rules & Requirements

IDEAs in Action Gen Ed: HI-GENERAL.
Grading Status: Letter grade.

BUSI 580. Investments. 3 Credits.
A survey of investment principles and practices. Emphasis is given to the problems of security analysis and portfolio management with special attention to the investment problems of the individual investor. Honors version available.

Rules & Requirements
Requisites: Prerequisite, BUSI 408.
Grading Status: Letter grade.

BUSI 581. Financial Modeling for Leveraged Buyout Transactions. 1.5 Credits.
This course teaches students how to weave their forecasts into coherent spreadsheet-based, pro-forma financials. The main goal of this course is to illustrate how a practitioner would analyze a leveraged buyout. Students will construct their own LBO model in Excel and, by the end of the course, should feel comfortable assessing a company and determining if it is a viable LBO candidate.

Rules & Requirements
Requisites: Prerequisite, BUSI 408.
Grading Status: Letter grade.

BUSI 582. Mergers and Acquisitions. 3 Credits.
Through lectures, case studies, and guest speakers, this course will cover all aspects of mergers and acquisitions from strategy to post-merger integration with an emphasis on valuation. Related activities such as hostile takeovers, private equity deals, and international acquisitions will also be discussed. Honors version available.

Rules & Requirements
Requisites: Corequisite, BUSI 408.
Grading Status: Letter grade.

BUSI 583. Applied Investment Management. 3 Credits.
Permission of the department. Year-long course. A live, student-managed investment fund with real dollars and fiduciary responsibility to the UNC Foundation. Emphasis is on the decisions that must be made by and/or for the ultimate investor and the analytic tools and empirical evidence that can help inform such decisions. Honors version available.

Rules & Requirements

IDEAs in Action Gen Ed: HI-PERFORM.
Requisites: Prerequisites, BUSI 407 and 408.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

BUSI 584. Financial Modeling. 3 Credits.
Skill development in constructing financial models for analyzing problems with decisions faced by financial professionals. Analyzing historical performance, forecasting free cash flows, estimating discount rates, determining terminal value, identifying other sources of value, and interpreting results in a dynamic setting.

Rules & Requirements
Requisites: Prerequisite, BUSI 408.
Grading Status: Letter grade.

BUSI 585. Introduction to Real Estate. 3 Credits.
An overview of residential and commercial real estate. This survey course examines 1) buying a house and constructing a portfolio of single-family rental houses, 2) commercial real estate product types, 3) amortization, cash flows, capital expenditures, cap rates, debt and equity, hurdle rates and taxes, 4) investment analysis, 5) acquisition, development, operation, and disposition, 6) real estate and contract law, and 7) the partnership negotiation process.

Rules & Requirements
Grading Status: Letter grade.

BUSI 586. Personal Finance. 1.5 Credits.
Introduces and broadens the concept of personal finance and increases understanding of the process of accumulating and protecting personal wealth. Students learn to identify and analyze risk and return relationships, understand investment alternatives and how strategies develop as life situations mature, and gain understanding of retirement planning and effectively transferring wealth.

Rules & Requirements
Requisites: Prerequisite, BUSI 408.
Grading Status: Letter grade.

BUSI 587. Investment Banking. 1.5 Credits.
This course prepares students for investment banking positions and internships. The focus of the class is on financial modeling, general knowledge of banking, and what it takes to succeed in the industry. Permission of the instructor and confirmed offer of investment banking analyst internship or full-time job. Honors version available.

Rules & Requirements
Requisites: Prerequisite, BUSI 408.
Grading Status: Letter grade.

BUSI 588. Introduction to Derivative Securities and Risk Management. 1.5 Credits.
Introduction to derivative securities instruments (options and futures) and applications in investments and corporate finance. Honors version available.

Rules & Requirements
Requisites: Prerequisite, BUSI 408.
Grading Status: Letter grade.

BUSI 589. Fixed Income. 1.5 Credits.
The course covers traditional bonds and term structure concepts as well as fixed income derivatives and interest rate modeling. Honors version available.

Rules & Requirements
Requisites: Prerequisite, BUSI 408.
Grading Status: Letter grade.

BUSI 590. Business Seminar. 3 Credits.
Selected topics in business administration presented in seminar format with students engaged in individual and team study under the supervision of a member of the faculty. Honors version available.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 9 total credits. 3 total completions.
Grading Status: Letter grade.

BUSI 592. Applied Private Equity: Real Estate. 3 Credits.
Permission of the instructor. This course explores, at a very advanced level, all stages of the management of a real estate private equity fund: from capital formation, deal sourcing, due diligence, monitoring and adding value, and exiting of the fund's real estate holdings.

Rules & Requirements
IDEAs in Action Gen Ed: HI-PERFORM.
Requisites: Prerequisites, BUSI 408, BUSI 601 and 603.
Repeat Rules: May be repeated for credit. 9 total credits. 3 total completions.
Grading Status: Letter grade.

BUSI 597. Sustainable Finance. 1.5 Credits.
The transition toward a sustainable and inclusive economy faces multiple challenges with economic, environmental, and social implications. This introductory course explores how finance interacts with sustainability issues and its leading role in such transition. We will cover key economic and financial concepts and develop relevant knowledge and critical thinking on topics such as: Environmental, Social, and Governance (ESG) investing; the financing of sustainable projects; real and financial implications of climate risk.

Rules & Requirements
Grading Status: Letter grade.

BUSI 598. Alternative Investments. 1.5 Credits.
Permission of the instructor. Open to seniors only. Exposes students to the benefits, opportunities, and risks of incorporating alternative investments into managed institutional investment portfolios, including pension funds, endowments, and foundations.

Rules & Requirements
Requisites: Prerequisites, BUSI 408, and 580 or 588.
Grading Status: Letter grade.

BUSI 600. Risk Management. 1.5 Credits.
Develops methods for applied analysis of financial and operational risk. The course covers statistical methods of risk measurement such as value-at-risk. In addition, the course covers methods for designing and evaluating risk management procedures at both financial and non-financial companies. The course includes several guest lectures from senior managers.

Rules & Requirements
Requisites: Prerequisite, BUSI 408.
Grading Status: Letter grade.

BUSI 601. Real Estate Finance. 1.5 Credits.
This course will focus on the different ways to finance real property, and how different financing techniques impact the feasibility and investment benefits for equity investors. Honors version available.

Rules & Requirements
Requisites: Pre- or corequisite, BUSI 408.
Grading Status: Letter grade.

BUSI 602. Strategic Economics. 1.5 Credits.
This course focuses on decision making in the presence of strategic interaction. Students will apply game theory to yield insights into business decisions. Topics covered include pricing, entry, product market competition, first-mover advantage, capital budgeting, antitrust law, corporate governance, auctions, and mergers.

Rules & Requirements
Grading Status: Letter grade.

BUSI 603. Real Estate Development. 1.5 Credits.
This course is designed to introduce undergraduate students to the financial and economic analysis of real estate development. The course will focus on both the physical and financial dimensions of the real estate development process. The course considers multiple asset classes, and students learn to complete financial analysis of real estate development projects.

Rules & Requirements
Requisites: Pre- or corequisite, BUSI 408, BUSI 585.
Grading Status: Letter grade.

BUSI 604. Real Estate and Capital Markets. 1.5 Credits.
Introduces students to the capital markets for financing real estate assets. Topics include an overview of real estate as an asset class in the US economy, risk and return in real estate markets, the economics of discount and capitalization rates, the market for mortgage-backed securities (with a peek into the role that these instruments played in the recent financial crisis), and the valuation/analysis of Real Estate Investment Trusts (REITs). Honors version available.

Rules & Requirements
Requisites: Prerequisite, BUSI 408.
Grading Status: Letter grade.

BUSI 605. Real Estate Capstone. 3 Credits.
Case-based course covering a broad range of real estate issues. The cases studied focus on investment decisions made by practitioners in the industry, and will include investment feasibility and valuation, financing projects, leasing, development, individual and private equity structures, etc. This course is designed to allow students to utilize all prior real estate coursework in a practical manner. Offered to seniors completing the real estate minor or BSBA area of emphasis.

Rules & Requirements
Requisites: Prerequisites, BUSI 408, 585, 601, and 603; Corequisite, BUSI 604.
Grading Status: Letter grade.

BUSI 606. Buyout Structures and Deals. 1.5 Credits.
It improves students' understanding of how private equity firms evaluate risk/reward, create value in LBO transactions, and explores the role of private equity in the financial markets and corporate boardroom. Students will develop a better understanding of the decisions private equity firms face; covering challenges in going-private and private-to-private transactions, use of leveraged finance for LBOs and dividend recapitalizations.

Rules & Requirements
Requisites: Prerequisite, BUSI 408.
Grading Status: Letter grade.

BUSI 607. Inside the Capital Markets - Institutions, Players and Regulators. 1.5 Credits.
This course provides a broad overview of the U.S. and global capital markets. It explores how the markets work, market participants (e.g. mutual funds, hedge funds, investment banks, and venture capital funds), and the infrastructure that supports the industry. Students will follow a "day in the life" of a trade and gain an understanding of the various systems and investment roles and responsibilities. The course will also provide an overview of investing in foreign markets.

Rules & Requirements
Requisites: Prerequisite, BUSI 408.
Grading Status: Letter grade.

BUSI 608. Introduction to FinTech - Blockchain Technologies and Cryptocurrencies. 1.5 Credits.
This course is an introduction to FinTech, helping students to understand recent advances in blockchain technologies and cryptocurrencies. Topics include: Bitcoin and blockchain, Ethereum and smart contracts, fork, initial coin offerings (ICOs), cryptocurrency trading, blockchain industries, issues in the cryptocurrency market (e.g. market manipulation and regulations), and decentralized finance and the future of finance. Recommended preparation, BUSI 408.

Rules & Requirements
Grading Status: Letter grade.

BUSI 610. Global Environment of Business. 3 Credits.
Issues in operating overseas, including analyses of differences in country settings, legal and economic systems, and governmental policies affecting foreign operations. Studies trade theory, country groupings, and financial issues; managing operations in foreign lands; exporting.

Rules & Requirements
Grading Status: Letter grade.

BUSI 611. International Development. 3 Credits.
Poverty is part of life for most of the world's population, with half living on less than two dollars a day. Course focuses on understanding this from a business school perspective. Looks at institutional failures that contribute to persistent poverty and the multiple roles managers can play in reducing poverty.

Rules & Requirements
Grading Status: Letter grade.

BUSI 618. Global Financial Markets. 1.5 Credits.
Develops the foundation for financial decisions in a global economic environment. Extends the analytical concepts and tools learned in introductory investment and corporate finance courses to multicountry/multicurrency settings. Covers three major areas: the economics of exchange rates, international money and capital markets, and international corporate finance.

Rules & Requirements
Requisites: Prerequisite, BUSI 408.
Grading Status: Letter grade.

BUSI 625. Global Healthcare Management. 1.5 Credits.
This course will provide students with an overview of numerous global healthcare topics. Students will learn about macro global healthcare issues, country-specific healthcare systems, healthcare interdependencies between regions and countries, global healthcare business strategies and solutions. The course will examine innovative global business models focused on analyzing the cost, access, and quality of healthcare around the globe.

Rules & Requirements
Grading Status: Letter grade.

BUSI 626. Introduction to Healthcare Management. 1.5 Credits.
An overview of the dynamics of leading/managing a modern-day hospital/health system and of the US healthcare system including its characteristics/dynamics, structure and operation, how it has evolved over time, and how it may further evolve. It engages students in examining the major economic, political, technological, and social trends driving the US healthcare system, and the implications of those trends in the strategic leadership and operational management of hospitals/health systems.

Rules & Requirements
Grading Status: Letter grade.

BUSI 627. Healthcare Brand Plan. 1.5 Credits.
Students interested in the business of health will learn to create brand plans in the healthcare industry. Students will learn brand plan principles and concepts as they examine best practices from pharmaceutical brands. The course concludes with the development and presentation of a brand plan for a healthcare company, affording the opportunity to interact with industry. This course is ideal for students who aspire to be brand managers and marketing directors in the healthcare industry.

Rules & Requirements
Grading Status: Letter grade.

BUSI 653. Applied Learning: Symposium Core Committee. 1.5 Credits.
Permission of the department. This course is by invitation only to students who previously served on the Undergraduate Business Symposium core committee. As senior advisors, students practice the leadership, organization, delegation, communication, and teamwork skills that they learn about in their other courses.

Rules & Requirements
Repeat Rules: May be repeated for credit. 3 total credits. 2 total completions.
Grading Status: Letter grade.

BUSI 688. Applied Trading Strategies. 1.5 Credits.
This seminar style course develops a set of financial tools useful for trading primary and derivative securities with the goal of obtaining specific exposures in equity, fixed income, and commodity markets. The course examines methods for managing financial price risk of positions and how hedge funds use derivatives in practice. Honors version available.

Rules & Requirements
Requisites: Prerequisites, BUSI 408 and 588.
Grading Status: Letter grade.

BUSI 691H. Honors Research Proposal. 3 Credits.
Permission of the department. Open to senior business administration majors with a minimum 3.5 grade point average in business courses. Students learn business research techniques and develop individual proposals for business research. Successful proposals may advance to honors thesis research and writing (BUSI 692H).

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

BUSI 692H. Honors Thesis. 3 Credits.
Permission of the department. Open to senior business majors with a minimum 3.5 grade point average in business courses. Original investigation of a topic in business and preparation of a substantive research project under the direction of a faculty advisor. Written essay and oral presentation are required.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Requisites: Prerequisite, BUSI 691H.
Grading Status: Letter grade.

Graduate-level Courses

BUSI 701. Artistic Entrepreneurship. 3 Credits.
This course is a study in entrepreneurship and the specific challenges faced by artistic entrepreneurs.

Rules & Requirements
Grading Status: Letter grade.

BUSI 702. Introduction to Social Entrepreneurship. 1-3 Credits.
An overview of how entrepreneurship is transforming students' fields and disciplines and how the application of principles of entrepreneurship may be used to advance their professional objectives.

Rules & Requirements
Grading Status: Letter grade.

BUSI 703. Introduction to Commercial Entrepreneurship. 1-3 Credits.
A cross-disciplinary curriculum that brings together the core field with the wide-ranging literature in entrepreneurship to seek new approaches to traditional problems.

Rules & Requirements
Grading Status: Letter grade.

BUSI 704. Entrepreneurship Capstone. 1-3 Credits.
Capstone project, business plan, or paper that links the work done in the certificate to the field it is intended to complement.

Rules & Requirements
Requisites: Prerequisites, BUSI 701, 702, and 703.
Grading Status: Letter grade.

BUSI 705. Entrepreneurship Capstone Project. 1.5-3 Credits.
This Graduate Certificate in Entrepreneurship capstone project is self-paced, and overseen by the faculty director of each track (life sciences, public health, and artistic).

Rules & Requirements
Grading Status: Letter grade.

BUSI 801. Independent Study. 1-9 Credits.
Independent study intends to extend a student's learning beyond the classroom or allows a student the opportunity to explore a topic not offered in a traditional format.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

BUSI 808. Applied Research Methods I. 3 Credits.
Addresses fundamentals of empirical social science research. Topics include framing a research question, comparing research designs, instrumentation, reliability, validity, and exploratory and confirmatory factor analysis. Emphasizes application and analysis.

Rules & Requirements
Grading Status: Letter grade.

BUSI 809. Applied Research Methods II. 3 Credits.
Continuation of BUSI 808. Topics include statistical control, categorical variables, interaction, curvilinear and similarity effects, longitudinal analysis, path analysis, structural equation modeling, and publication. Emphasizes application and analysis.

Rules & Requirements
Grading Status: Letter grade.

BUSI 810. Empirical Operations. 3 Credits.
Required preparation, working knowledge of probability, statistics, and regression. The course prepares students to perform academic research, and it will be conducted in a manner that simulates an academic research conference. The course will focus on empirical research approaches used in solving many classical problems in operations management.

Rules & Requirements
Grading Status: Letter grade.

BUSI 830. Theory of Operations Management I. 3 Credits.
Permission of the instructor. Rigorous study of traditional and modern issues, problems, and approaches in operations management.

Rules & Requirements
Grading Status: Letter grade.

BUSI 831. Theory of Operations Management II. 3 Credits.
A continuation of BUSI 830.

Rules & Requirements
Requisites: Prerequisite, BUSI 830.
Grading Status: Letter grade.

BUSI 832. Theory of Operations Management III. 3 Credits.
A continuation of BUSI 830.

Rules & Requirements
Requisites: Prerequisite, BUSI 830.
Grading Status: Letter grade.

BUSI 837. Advanced Topics in Operations Management. 3 Credits.
Permission of the instructor. Intensive study of a specific area in operations management.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

BUSI 838. Seminar in Operations Management. 3 Credits.
Permission of the instructor. Intensive study of a specific area in operations management.

Rules & Requirements
Grading Status: Letter grade.

BUSI 851. Individual Behavior in Organizations. 1-3 Credits.
Analysis of individual behavior, adjustment, and effectiveness. Examination of attitudes, stress, problem solving, decision making, motivation, and personality. Applications to management of human resources.

Rules & Requirements
Grading Status: Letter grade.

BUSI 852. Interpersonal and Intergroup Behavior in Business Organizations. 1-3 Credits.
Intensive critical examination of interpersonal and intergroup behavior, including decision processes, communication, conflict, and conflict resolution in large organizations.

Rules & Requirements
Grading Status: Letter grade.

BUSI 853. Macro Organizational Behavior. 3 Credits.
Graduate standing in business administration required. Intensive study of theory and research in organizational structure, coordinating and control mechanisms, design parameters, and environments.

Rules & Requirements
Grading Status: Letter grade.

BUSI 854. Organizational Design and Development. 3 Credits.
The development of understanding and skills in changing and evolving organizational design, interpersonal relationships, and people to achieve organizational goals.

Rules & Requirements
Grading Status: Letter grade.

BUSI 856. Seminar in Organizational Behavior. 3 Credits.
Permission of the instructor. Intensive study of important current theory and research in organizational behavior.

Rules & Requirements
Grading Status: Letter grade.

BUSI 857. Seminar in Human Resource Management. 3 Credits.
Review the research literature on how firms are made more effective through their people. Coverage includes topics like recruitment, hiring, compensation, socialization, culture, and performance management.

Rules & Requirements
Grading Status: Letter grade.

BUSI 858. Special Topics in Organizational Behavior. 3 Credits.
BUSI 858 is a second doctoral course in organizational behavior, meant to be taken after completing BUSI 851: Individual Behavior in Organizations. While BUSI 851 gave an overview of many important topics in organizational behavior, the field is too broad to be covered, in depth, with a single class. The goal of this course is to introduce developing scholars to the history and current status of important topics in organizational behavior. This course is intended for developing scholars who intend to pursue academic careers.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

BUSI 860. Seminar in Marketing I. 3 Credits.
Permission of the instructor. Overview of current paradigms and research in marketing. Topics include philosophy of science, differing views of what marketing is, strengths and weaknesses of various research approaches, and career socialization issues.

Rules & Requirements
Grading Status: Letter grade.

BUSI 861. Seminar in Marketing II. 3 Credits.
Intensive study of the empirical and analytical literature involving problems in pricing, product development and management, advertising and promotion, distribution, and strategy.

Rules & Requirements
Requisites: Prerequisite, BUSI 860.
Grading Status: Letter grade.

BUSI 862. Marketing Models. 3 Credits.
This class covers a range of econometric principles and models of relevance to marketing. The emphasis will be on model formulation and estimation.

Rules & Requirements
Grading Status: Letter grade.

BUSI 865. Seminar in Current Marketing Topics. 1 Credits.
Permission of the instructor. Advanced research in marketing. A seminar to discuss current research of doctoral candidates, faculty, and invited guests.

Rules & Requirements
Grading Status: Letter grade.

BUSI 867. Issues in the Design and Analysis of Research in Marketing. 3 Credits.
Graduate standing in business administration required. A review of major issues in marketing, including philosophy of science, measurement, and experimental and quasi-experimental design.

Rules & Requirements
Grading Status: Letter grade.

BUSI 868. Seminar in Marketing Research Methodology. 3 Credits.
Permission of the instructor. An introduction to multivariate data analysis methods including factor analysis, cluster analysis, logic, discriminant analysis and multidimensional scaling.

Rules & Requirements
Grading Status: Letter grade.

BUSI 876. Seminar in Research in Accounting. 1 Credits.
Permission of the instructor. An informal seminar to discuss current research in accounting.

Rules & Requirements
Grading Status: Letter grade.

BUSI 880. Financial Economics. 3 Credits.
Permission of the instructor. Introduction to the theories of asset pricing.

Rules & Requirements
Grading Status: Letter grade.

BUSI 881. Corporate Finance. 1-6 Credits.
Introduction to corporate finance theory.

Rules & Requirements
Requisites: Prerequisite, BUSI 880; Permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

BUSI 882. Empirical Corporate Finance. 3 Credits.
Permission of the instructor. An introduction to the empirical corporate finance literature.

Rules & Requirements
Grading Status: Letter grade.

BUSI 885. Seminar in Research in Finance. 1.5 Credits.
Permission of the instructor. Advanced research in business finance and investment. An informal seminar to discuss current research of doctoral candidates, faculty, and others.

Rules & Requirements
Grading Status: Letter grade.

BUSI 886. Introduction to Empirical Finance. 3 Credits.
This course provides an introduction to the quantitative methods used in empirical asset pricing. Model specification and estimation issues are discussed at length. The course emphasizes both theoretical and practical research.

Rules & Requirements
Grading Status: Letter grade.

BUSI 887. Quantitative Methods in Finance. 3 Credits.
Permission of the instructor. Review of information generating and optimizing models and their applicability to decision making in finance.

Rules & Requirements
Grading Status: Letter grade.

BUSI 888. Seminar in Financial Markets. 3 Credits.
Permission of the instructor. Advanced methods in finance.

Rules & Requirements
Grading Status: Letter grade.

BUSI 890. Strategic Management Overview. 3 Credits.
A seminar to provide a broad and current understanding of strategic management. Exposure to the entire field is emphasized.

Rules & Requirements
Grading Status: Letter grade.

BUSI 891. Strategic Formulation. 3 Credits.
This seminar emphasizes both process and content issues to provide students with an in-depth understanding of strategy formulation topics.

Rules & Requirements
Requisites: Prerequisite, BUSI 890.
Grading Status: Letter grade.

BUSI 892. Strategy Implementation. 3 Credits.
This seminar focuses on strategy implementation, with particular emphasis devoted to the process, systems, and structures required for effective implementation.

Rules & Requirements
Requisites: Prerequisites, BUSI 890 and 891.
Grading Status: Letter grade.

BUSI 899. Seminar. 1-6 Credits.
Permission of the instructor. Individual research in a special field under direction of a member of the department

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

BUSI 899C. Seminar. 0.5-15 Credits.
Individual research in a special field under direction of a member of the department.

Rules & Requirements
Grading Status: Letter grade.

BUSI 992. Master's (Non-Thesis). 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

BUSI 994. Doctoral Research and Dissertation. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

Contact Information

Kenan–Flagler Business School
Visit Program Website (http://www.kenan-flagler.unc.edu)

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DEPARTMENT OF CELL BIOLOGY AND PHYSIOLOGY (GRAD)

Admission to the graduate Ph.D. program curriculum is via the unified Biological and Biomedical Sciences Program (BBSP) at UNC–Chapel Hill. A bachelor's degree (B.A. or B.S.) is required for admission. Applicants are expected to have a strong background in the biological sciences, chemistry, physics, and mathematics. Details of the application process are available at the BBSP website (http://bbsp.unc.edu/) and The Graduate School's admissions website. (http://gradschool.unc.edu/admissions/) Briefly, the application should include transcripts, three letters of recommendation, and a personal statement outlining career goals. There is a separate direct admission terminal Master's (M.S.) program; information for Cell Biology and Physiology 2-semester M.S (https://www.med.unc.edu/cellbiophysio/master-of-science-in-cell-biology-physiology/).

The mission of the Department of Cell Biology and Physiology is to provide students with a rigorous, individually tailored educational experience to prepare them for research and teaching careers in the biomedical sciences. This graduate program will provide a forum for graduate students to learn current concepts in modern cell biology and physiology and to develop the skills necessary to formulate sophisticated strategies for analysis of contemporary problems in cell biology and physiology. Based on a solid foundation of coursework in cell biology and physiology, students will further complement their training by selecting courses in bioinformatics/statistics, genetics, pharmacology, immunology, and/or biochemistry that best support and enhance their specific area of research interest. Dissertation research enables students to apply these tools to a problem of intellectual and biomedical interest. Students receive strong training in the scientific process and apply their skills to probe the mechanistic basis of biological problems at molecular, cellular, and systems levels. A strong emphasis will be placed on career development, such as oral and written presentation skills, and mentoring students in a way that enables them to explore the diverse job opportunities available to them in the post-graduate biomedical workforce. Graduates will be well prepared to continue their research careers in a number of academic disciplines.

Assistantships and Other Student Aid

Students in the Ph.D. program are supported by a stipend set by BBSP annually plus tuition, fees, and medical insurance.

Cell Biology and Physiology, Master's Program (M.S.) – Biomedical Research, M.D.

Course Requirements

Code	Title	Hours
Core Courses		
CBPH 855	Career and Research Enhancement Seminar (CaRES)	1
CBPH 856	Career and Research Enhancement Seminar (CaRES)	1
Electives		
Elective courses can be approved by DGS.		
CBPH 910	Research	2-15
CBPH 705	Improving Presentation & Communication of Scientific Results [1]	2
CBPH 706	Communicating Scientific Results	1
CBPH 852	Cell Biology and Physiology in Health and Disease I	4.5
or CBPH 853	Cell Biology and Physiology in Health and Disease II	
CBPH 895	Responsible Conduct of Research (RCR)	1
Thesis/Substitute Dissertation		
CBPH 992	Master's (Non-Thesis) [2]	3
Minimum Hours		**30**

[1] CBPH 705 is strongly recommended.
[2] Must be taken every semester.

Milestones

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 27) for more information.

- Master's Committee
- Master's Oral Exam/Approved Exam Substitute
- Thesis Substitute
- Residence Credit
- Master's Exit Survey
- Annual Committee Meeting

Cell Biology and Physiology, Master's Program (M.S.) – Biomedical Research, P.B.

Course Requirements

Code	Title	Hours
Core Courses		
CBPH 850	Human Physiology I	4
CBPH 851	Human Physiology II	4
CBPH 855	Career and Research Enhancement Seminar (CaRES)	1
CBPH 856	Career and Research Enhancement Seminar (CaRES)	1
CBPH 891	Special Topics in Biomedical Science [1]	4
CBPH 990	Research Practicum/Internship in Cell Biology and Physiology [1]	3
Thesis/Substitute Dissertation		
CBPH 992	Master's (Non-Thesis) [1]	3
Minimum Hours		**30**

[1] Must be taken every semester.

Milestones

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 27) for more information.

- Master's Committee
- Master's Oral Exam/Approved Exam Substitute
- Thesis Substitute
- Residence Credit
- Master's Exit Survey

Cell Biology and Physiology, Doctoral Degree (Ph.D.)

The UNC at Chapel Hill Cell Biology and Physiology (CBP) Curriculum is an integrative, multidisciplinary predoctoral training program that uses a systems approach to provide comprehensive, biomedical graduate education to our trainees. Our students will formulate sophisticated strategies for analysis of contemporary biomedical problems with a strong emphasis on career development, including oral and written presentation skills, and mentoring students in a way that enables them to explore diverse job opportunities available to them in the post-graduate biomedical workforce.

Course Requirements

Code	Title	Hours
Core Courses		
CBPH 852	Experimental Physiology of Human Health and Disease	4.5
CBPH 853	Experimental Physiology of Human Health and Disease	4.5
CBPH 705	Improving Presentation & Communication of Scientific Results	2
CBPH 706	Communicating Scientific Results	1
CBPH 895	Responsible Conduct of Research (RCR)	1
CBPH 855	Career and Research Enhancement Seminar (CaRES) [1]	1
CBPH 856	Career and Research Enhancement Seminar (CaRES) [1]	1
One Comprehensive Statistics Course: [2]		
BBSP 710	Biostatistics for Laboratory Scientists	
BCB 720	Introduction to Statistical Modeling	
Electives [3]		
CBPH 710	Advanced Light Microscopy	3
GNET 743	Introductory Statistical Analysis in R for Biomedical Scientists	1
Thesis/Substitute or Dissertation [4]		
CBPH 994	Doctoral Research and Dissertation	3
Minimum Hours		**36**

1. Must be taken annually.
2. Must take one of the approved statistics courses from the list in this section.
3. Students can have alternative courses approved by the Director of Graduate Studies with a 3-hour minimum.
4. Must be taken every semester starting in the fall semester of their second year with a 6-hour minimum.

Milestones

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 27) for more information.

- Doctoral Committee
- Doctoral Oral Comprehensive Exam (Qualifying Exam)
- Doctoral Written Exam
- Prospectus Oral Exam (Qualifying Exam)
- Dissertation Defense
- Doctoral Dissertation Approved/Format Accepted
- Residence Credit
- Doctoral Exit Survey
- Doctoral Manuscript Submission
- Doctoral Intradepartmental Review
- Doctoral Preparatory Committee Review

Professors

Eva Anton
Albert Baldwin
Vicki Bautch
James Bear
Jay Brenman
Patrick Brennwald
Craig Cameron
Sharon Campbell
Kathleen Caron
Richard Cheney
Jean Cook
Frank Conlon
Douglas M. Cyr
Channing Der
Mohanish P. Deshmukh
James Faber
Ron Falk
Bob Goldstein
Klaus Hahn
James Hagood
Alan Jones
Tom Kash
William Kim
Richard Loeser
Chris Mack
Paul Manis
Greg Matera
Mark Peifer
Ben Philpot
Scott Randell
Juan Song
Joan Taylor
Jenny Ting
Ellen R. Weiss
Richard Weinberg
Jen Jen Yeh
Mark Zylka

Associate Professors

Wolfgang Bergmeier
Todd Cohen
Adrienne Cox
Mike Emanuele
Flavio Frohlich
Kurt Gilliland
Jimena Giudice
Stephanie Gupton
Adam Hantman
Brian Jensen
Jiandong Liu
Amy Maddox
Scott Magness
Zoe McElligott
Saskia Neher
Larry Ostrowski
Scott Parnell
Yuliya Pylayeva-Gupta
Li Qian
Stephen Rogers
Greg Scherrer
Natasha Snider
Jessica Thaxton
Scott Williams

Assistant Professors

Edward Bahnson
Katie Baldwin
Jessica Bowser
Michael Bressan
Gang Chen
Dominic Ciavatta
Sarah Cohen
Graham Diering
Rob Dowen
Whitney Edwards
Toshihide Hige
Michelle Itano
Wesley Legant
Heather McCauley
Shaun McCullough
Justin Milner
Lori O'Brien
Douglas Phanstiel

Professors Emeriti

Robert G. Faust
Paul B. Farel
Noelle A. Granger
Charles R. Hackenbrock
O'Dell W. Henson Jr.
Enid R. Kafer
William E. Koch
Jean M. Lauder
Alan Light
David L. McIlwain
Edward R. Perl
Peter Petrusz
Lloyd R. Yonce

CBPH

CBPH 705. Improving Presentation & Communication of Scientific Results. 2 Credits.
Learning modern day techniques and approaches to convey scientific results effectively as a public speaker. Teaching how to implement the key aspects of effective presentation of scientific findings in public settings. Understanding the key components of an effective public talk including scientific content, body language, and voice. Learning how to captivate the target audience and yet still convey data driven scientific findings.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.
Same as: NBIO 850.

CBPH 706. Communicating Scientific Results. 1 Credits.
Practice in oral and written communication evaluated by peers and faculty. Includes delivery of coached presentations on topics in physiology and preparation of writing assignments typically encountered in scientific life.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

CBPH 710. Advanced Light Microscopy. 3 Credits.
An intensive and comprehensive hands-on laboratory-oriented course in light microscopy for researchers in biology, medicine, and materials science. This course will focus on advanced quantitative fluorescence microscopy techniques used for imaging a range of biological specimens, from whole organisms, to tissues, to cells, and to single molecules. This course emphasizes the quantitative issues that are critical to the proper interpretation of images obtained with light microscopes.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 1 total completions.
Grading Status: Letter grade.
Same as: NBIO 710, PATH 710.

CBPH 730. Fundamentals of Quantitative Image Analysis for Light Microscopy. 1 Credits.
This course is a practical introduction to quantitative analysis of light microscopy images. During the class students will follow tutorials that will guide them through common tasks in analysis of biological images. They will be introduced to basic concepts of image processing like image registration, filtering, object detection etc.

Rules & Requirements
Grading Status: Letter grade.
Same as: BCB 730, GNET 730.

CBPH 741. Introduction to Human Anatomy. 3 Credits.
A general course for persons preparing for careers as dental hygienists. Two lectures and two laboratory hours a week.

Rules & Requirements
Grading Status: Letter grade.

CBPH 791. Gross Anatomy for Physical Therapists. 4 Credits.
Fundamental principles and concepts of human gross anatomy for physical therapists taught by lectures and cadaver dissection. Emphasis on functional anatomy. Three lecture hours and six laboratory hours a week.

Rules & Requirements
Requisites: Prerequisites, BIOL 474 and 474L; Permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

CBPH 793. Functional Neuroanatomy. 3 Credits.
Study of basic structure of the brain and spinal cord, including both lecture and laboratory. Primarily for physical therapy students. Four hours a week.

Rules & Requirements
Requisites: Prerequisites, CBIO 607 and CBPH 791; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

CBPH 800. Seminar in Cell Biology & Physiology. 1-3 Credits.
Current topics relevant for biomedical sciences students. May be repeated for credit. May be repeated in the same term for different topics.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

CBPH 850. Human Physiology I. 4 Credits.
Graduate students only. This course provides an overview of the function and regulation of human body systems. Topics include cellular, muscle, neurological, cardiovascular, and respiratory physiology. Emphasis is placed upon mechanisms of integration and control. Permission of the instructor.

Rules & Requirements
Grading Status: Letter grade.

CBPH 851. Human Physiology II. 4 Credits.
Graduate students only. This course provides an in-depth study of renal physiology, gastrointestinal physiology, endocrine physiology, and reproductive physiology. Students will learn physiologic mechanisms in each of these areas at the molecular, cellular, and system levels of organization. Emphasis will be placed on the integrated functions of organ systems.

Rules & Requirements
Grading Status: Letter grade.

CBPH 852. Cell Biology and Physiology in Health and Disease I. 4.5 Credits.
CBPH 852 provides a broad introduction to cell biology and physiology in the context of human health and disease. Sessions will emphasize the integration of cell biological principles into physiological paradigms, and vise-versa. The course covers fundamental cellular processes such as cell organization, membrane trafficking, protein quality control, cytoskeleton, and cell motility. It also covers the development and function of the nervous and cardiovascular systems, as well as diseases of these organ systems. Journal clubs will enable students to integrate lecture material with published primary research articles (both classic and new studies) that answer important questions using cellular and physiological

Rules & Requirements
Grading Status: Letter grade.

CBPH 853. Cell Biology and Physiology in Health and Disease II. 4.5 Credits.
This course is ideal for first- or second-year graduate students with an interest in cell biology and physiology in the context of experimental medicine and translational approaches aimed at understanding and treating human diseases. Sessions will emphasize the integration of cell biological principles into physiological paradigms, and vise-versa. The course covers fundamental cellular processes, such as RNA and protein regulation, cell signaling, cell-cell communication, immune regulation, inflammation and fibrosis. Journal clubs will enable students to integrate lecture material with published primary research articles (both classic and new studies) that answer important questions using cellular and physiological systems to advance translational Permission of the instructor.

Rules & Requirements
Grading Status: Letter grade.

CBPH 855. Career and Research Enhancement Seminar (CaRES). 1-2.5 Credits.
Weekly seminar given by outside investigators from academia or industry; also includes research in progress seminars from current PhD students and their ongoing thesis work. Exposure to modern topics and cutting edge technologies in molecular cell biology and experimental physiology research. Must be an enrolled graduate student. Permission of the director of graduate studies.

Rules & Requirements
Grading Status: Letter grade.

CBPH 856. Career and Research Enhancement Seminar (CaRES). 1-2.5 Credits.
Weekly seminar given by outside investigators from academia or industry; also includes research in progress seminars from current PhD students and their ongoing thesis work. Exposure to modern topics and cutting edge technologies in molecular cell biology and experimental physiology research. Must be an enrolled graduate student. Permission of the director of graduate studies.

Rules & Requirements
Grading Status: Letter grade.

CBPH 890. Special Topics in Cell Biology & Physiology. 1-5 Credits.
Modern day exploration of topics or methodologies of interest to PhD students in biomedical sciences. New or old relevant technologies/methodologies or subject areas of research, and/or professional skills enhancement will be addressed. This could be either for enhancing knowledge of subject materials or teaching skill sets (e.g., statistics) needed for biomedical researchers.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 5 total credits. 5 total completions.
Grading Status: Letter grade.

CBPH 891. Special Topics in Biomedical Science. 1-4 Credits.
Elective course in Cell Biology and Physiology offering a series of alternating mini courses. Depending on instructor availability and expertise the student would choose the specific topic course that best aligns with their past educational training and scientific interests and needs. The topic offerings are meant for the typical life science/biology degree postbaccalaureate MS student in health related field. The specific topic offered would vary between Fall and Spring semesters but includes biochemistry, genetics, microbiology/immunology, pharmacology, neuroscience, and research and clinical ethics. For Terminal Masters students in Cell Biology & Physiology

Rules & Requirements
Requisites: Corequisite, graduate student at UNC Chapel Hill.
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 12 total completions.
Grading Status: Letter grade.

CBPH 895. Responsible Conduct of Research (RCR). 1 Credits.
Responsible conduct of research is a classroom-based graduate level course covering critical topics for ethical and responsible conduct of experimental research. There are both classroom lecture, workshop-type discussion components, in addition to assigned outside of class readings. Topics include: mentor and mentee relationships, publication authorship, collaboration, peer review, ethical use of human and animal subjects, conflicts of interest, intellectual property, plagiarism, data acquisition, and data processing.

Rules & Requirements
Grading Status: Letter grade.

CBPH 910. Research. 2-15 Credits.
Credit to be arranged in individual cases.

Rules & Requirements
Grading Status: Letter grade.

CBPH 915. Research Laboratory Apprenticeship. 2 Credits.
Enrollment in the cell biology and anatomy graduate program required. A course for first- and second-year graduate students in cell biology and anatomy, consisting of a research project of limited scope pursued under the supervision of a faculty member.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

CBPH 990. Research Practicum/Internship in Cell Biology and Physiology. 1-9 Credits.
The Research Practicum/Internship in Cell Biology and Physiology (CBPH) is a planned, individualized, mentored, evaluated, experiential learning opportunity that serves as a bridge between academic training and post-training practice. The internship/practicum provides special opportunities for learning that are different from, supplementary to, and supportive of the academic components of the PhD program.

Rules & Requirements
Requisites: Prerequisite, None; Corequisite, None; Pre- or corequisite, None.
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 9 total credits. 9 total completions.
Grading Status: Letter grade.

CBPH 992. Master's (Non-Thesis). 3 Credits.
Master's research for the non-thesis ("thesis substitute") track.

Rules & Requirements
Repeat Rules: May be repeated for credit.

CBPH 993. Master's Research and Thesis. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

CBPH 994. Doctoral Research and Dissertation. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

Contact Information

Department of Cell Biology and Physiology
Visit Program Website (http://www.med.unc.edu/cellbiophysio/)

Chair
Kathleen Caron

DEPARTMENT OF CHEMISTRY (GRAD)

The Department of Chemistry offers graduate programs leading to the degrees of master of arts (non-thesis), master of science (thesis), and doctor of philosophy in the fields of analytical, biological, inorganic, organic, physical, and polymer and materials chemistry. Reinforcing the broad nature of our graduate program, we have close interactions with various departments, including the Departments of Physics and Astronomy, Biochemistry and Biophysics, Environmental Science and Engineering, and the Biological and Biomedical Sciences Program.

Research Interests

Analytical

Development of instrumentation for ultra-high pressure capillary liquid chromatography, capillary electrophoresis, and combined two-dimensional separations. Applications include proteomics and measurement of peptide hormones in biological tissues. Mass spectrometry of biological, environmental, organic, and polymeric compounds; tandem MS, ion activation, ion molecule reactions; instrument development. Electrochemistry: new methods for study of biological media, neurotransmitters small spaces, redox solids, chemically modified surfaces, nanoparticle chemistry, and quantum size effects including the analytical chemistry of nanoparticles. Chemical microsystems: microfabricated fluidics technologies (i.e., lab-on-a-chip devices) to address biological measurement problems such as protein expression, cell signaling, and clinical diagnostics. Miniaturized mass spectrometers for environmental monitoring. Nanoscale fluidics devices for single molecule DNA sequencing and chemical sensing. Polymeric membranes to improve the analytical performance of in vivo sensors and enable accurate measurement of analytes in challenging milieu.

Biological

Structure-function relationships of complex biochemical processes; the molecular basis of disease; chemical biology; biophysics; mechanism of protein biosynthesis; metabolic regulation; gene organization and regulation of gene expression; biomolecular structure; protein folding; protein and RNA chemistry under physiologically relevant conditions, in-cell NMR; thermodynamics of protein-protein interactions; characterization of protein-protein and protein-DNA complexes by atomic force microscopy and single molecule fluorescence; in vitro and in vivo studies of DNA repair; RNA structure in vivo, RNA and viral genomics, transcriptome structure, assembly of biomedically important RNA-protein complexes; chemical synthesis of peptides and proteins; protein engineering through chemical synthesis and directed evolution; unnatural amino acid mutagenesis; molecular modeling of biomolecules; cell surface biophysics; fluorescence microscopy and spectroscopy; small molecule and protein microarray development; live cell fluorescence microscopy; genomics-driven natural product discovery; natural product biosynthesis and pathway engineering and design; synthetic biology; antibiotic mechanism of action; bioinformatics; metabolomics; small molecules involved in inter- and intra- species signaling.

Inorganic

Physical inorganic chemistry: electronic structure of transition metal complexes; photochemistry and electrochemistry of metal complexes; use of coordination complexes and inorganic materials for solar energy harvesting and conversion; molecular orbital theory, nuclear magnetic resonance and electron paramagnetic resonance spectroscopies; X-ray crystallography; infrared and Raman spectroscopies. Chemistry of transition metal complexes: synthesis of transition metal compounds, organometallic chemistry including metal-catalyzed organic reactions; reactions of coordinated ligands; kinetics and mechanisms of inorganic reactions; metal cluster chemistry; chiral supramolecular chemistry. Materials chemistry: molecular precursors to materials; solid state lattice design; metal-ion containing thin films; metal-polymer complexes; functional coordination polymers and metal-organic frameworks; chiral porous solids. Bioinorganic and medicinal inorganic chemistry: nanomaterials for biomedical imaging and anticancer drug delivery; reactivity of oxidized metal complexes with nucleic acids, photo-induced DNA cleavage, synthesis and characterization of model complexes for metalloenzymes.

Organic

Synthesis and biological reactions of natural products; peptide synthesis; protein engineering; structure-function studies on polypeptides and proteins; mechanistic and synthetic studies in organometallic chemistry; catalysis using organometallic complexes; nuclear magnetic resonance; kinetics; organosulfur and organophosphorus chemistry; surface effects in chemical behavior; chemistry of reactive intermediates including carbocations, carbanions, carbenes radical ions and radical pairs; photochemistry; light-driven organic catalysis; fluorescent sensors; enzyme inhibitors; new synthetic methods including asymmetric catalysis; stereochemistry and conformational analysis; design and synthesis of models for metalloenzymes; epr investigations of electronic couplings in high-spin organic molecules; spectroscopic studies of free radicals; synthesis and characterization of well-defined polymeric materials; synthesis of materials for use in microelectronics; homogeneous and heterogeneous polymerizations in supercritical fluids; synthesis of engineering polymers; molecular recognition.

Physical Chemistry

Ultrafast spectroscopy: femtosecond laser techniques to study photochemistry (e.g., energy transfer, proton coupled electron transfer) in systems including carbon nanotubes, light harvesting proteins, and several materials relevant to the production of solar fuels. Nonlinear Optics: lasers pulses with widely tunable bandwidths and frequencies with new nonlinear optical methods. Molecular interactions and dynamics in cells using optical Kerr effect and phase contrast methods. Spatial and temporal resolution of energy and charge transport within individual metal oxide nanoparticles using pump-probe microscopies. Biophysics: movements and interactions of regulatory proteins in cell nuclei using optical microscopies (e.g., FRET, FCS). Coherent quantum effects in photosynthesis using new laser spectroscopies analogous to multidimensional NMR techniques. Theoretical Chemistry: molecular dynamics simulations to study the structures and dynamics of biological membranes in addition to the properties of aqueous solutions next to such membranes. Laser spectroscopy in cooled molecular beams of transient species, ions and molecular complexes, subdoppler infrared spectroscopy, ion photodissociation studies, development of spectroscopic techniques, double resonance spectroscopy, pulsed field gradient NMR and NMR imaging. Application of optical and mass spectroscopies to study atmospheric chemistry. Quantum chemistry, density functional theory, quantum biology of neurotransmitters and pharmacological agents, energy minimization, protein dynamics, cooperativity, molecular graphics, mutagenesis, statistical mechanics of a liquid phase, structure and dynamics of aqueous solutions, kinetics in condensed phases, mechanical properties of polymers, state-to-state chemistry, reactions and energy transfer at solid surfaces. Polymer

properties: preparation of and nonlinear optical effects in polymeric systems, self-organized polymers, and liquid crystalline materials.

Polymer and Materials Chemistry

Synthesis, properties, and utilization of novel functional materials for various applications ranging from medicine and microelectronics to oil recovery and climate change. The many-pronged approach includes synthesis and molecular characterization of multifunctional monomers and polymers, computer modeling and intelligent design of molecular architectures that are able to sense, process, and response to impacts from the surrounding environment, and preparation of new engineering thermoplastics and liquid crystalline materials. Recent efforts funded by the National Cancer Institute, National Institute of Health, Advanced Energy Consortium, and Army Research Office are focused on lithographic design of organic nanoparticles for the detection, diagnosis, and treatment of diseases (especially cancer), self-healing, shape-memory, mechanocatalysis, organic solar cells, and imaging contrast agents for oil exploration. A broad variety of expertise includes imaging and probing of submicrometer surface structures by scanning probe microscopy, dynamic mechanical analysis, characterization of polymer dynamics by NMR techniques and light scattering, microfluidics and drug delivery control, measurement of molecular conductivity and energy conversion efficiency, and analytical as well as computational and numerical studies of soft materials, such as polymers, colloids, and liquid crystals.

Facilities and Equipment

Research is carried out in the William Rand Kenan Jr. Laboratories, the W. Lowry and Susan S. Caudill Laboratories, Venable Hall, Murray Hall, Chapman Hall, and the Genome Sciences Building. The undergraduate laboratories are housed in the John Motley Morehead Laboratories. The department is home to several core laboratories managed by Ph.D.-level staff scientists: Electronics Core Laboratory, NMR Core Laboratory, Mass Spectrometry Core Laboratory, X-Ray Core Laboratory, and the Scientific Glass Shop. Hardware and software resources managed by ITS are tailored to meet the needs of a broad range of chemists working on applications in quantum mechanics, molecular dynamics, NMR spectroscopy, X-Ray crystallography, structural biology, and bioinformatics.

Financial Aid and Admission

The department awards a number of industrial fellowships and predoctoral research and teaching appointments. All outstanding prospective graduate students who apply for admission/support are automatically considered for fellowships.

There are more than 200 graduate students in the department. All are supported either as teaching assistants (27 percent), research assistants (65 percent), or as fellows (8 percent) supported by The Graduate School, industry, or the United States government. The duties of the teaching assistants include the preparation for and supervision of laboratory classes in undergraduate courses and the grading of laboratory reports.

Applications for assistantships and fellowships should be made before the end of December, although applicants for assistantships are considered after that date. All international students whose native language is not English must take the Test of English as a Foreign Language (TOEFL) examination in addition to the Graduate Record Examination. However, international students who hold a degree from a university in the United States may be exempt.

Application forms for admission can be completed online at the Graduate School's website (http://gradschool.unc.edu/admissions/). Financial support as well as information about the department can be obtained from the Chemistry Department's graduate website (http://www.chem.unc.edu/grads/). Questions about our program may be directed to the e-mail address chemgs@unc.edu.

Doctor of Philosophy

The Ph.D. degree in chemistry is a research degree, and students normally begin research during the first year in graduate school. The Ph.D. degree consists of completion of a suitable program of study, a preliminary doctoral oral examination, a written comprehensive examination (satisfied by a research summary and dissertation prospectus), an original research proposal, an original research project culminating in a dissertation, and a final oral examination.

Master of Arts (Non-Thesis)

The master of arts (non-thesis) degree requires a minimum of 30 semester hours. A typical path to degree completion is 18 hours of advanced chemistry courses and 12 hours in seminar courses and thesis registration. (Only six hours of CHEM 992 can count towards the 30-hour requirement.) Students must accrue a total of at least two semesters of "full time" status based on UNC–Chapel Hill course registration (9 hours in one semester is full-time, 6–8 hours is half-time, 3–5 hours is quarter-time). *Students must be registered for 3 hours of CHEM 992 in the semester in which the MA Written Report is completed and the degree will be conferred* . The M.A. written examination is a written report on the current state of research in an area that is relevant to a departmental research topic, submitted to and approved/signed by the research advisor. As a substitute for a thesis, the candidate must earn a minimum of three hours of CHEM 992 (master's non-thesis option) in the semester of planned graduation and submit a written research report to the research director.

Master of Science

The master of arts degree requires a minimum of 30 semester hours of credit. A typical course load involves 18 hours of advanced chemistry courses and 12 hours in seminar courses and thesis registration. (Only six hours of CHEM 993 can count towards the 30 hour requirement). Students must accrue a total of at least two semesters of "full time" status based on UNC–Chapel Hill course registration (9 hours in one semester is full-time, 6–8 hours is half-time, 3–5 hours is quarter-time). *Students must be registered for three hours of CHEM 993 in the semester in which the M.S. thesis is defended.* Third-, fourth-, and fifth-year students must register for CHEM 993 for three hours until they graduate. The written comprehensive examination is a research summary approved by the dissertation committee. The oral examination comprises the Doctoral Qualifying Examination as approved by the dissertation committee. A master's thesis and final oral examination are also required.

Following the faculty member's name is a section number that students should use when registering for independent studies, reading, research, and thesis and dissertation courses with that particular professor.

Professors

Erik J. Alexanian (077), Organic Chemistry
Jeffrey Aubé (082), Organic Chemistry
Todd L. Austell (070), Chemistry Education, Academic Advising, Lab Curriculum Development
James F. Cahoon (080), Polymer and Materials Chemistry
Jillian L. Dempsey (003), Inorganic Chemistry

Andrey Dobrynin (023), Polymer and Materials Chemistry
Dorothy A. Erie (011), Physical and Biological Chemistry
Michel R. Gagné (022), Inorganic, Organic and Polymer Chemistry
Gary L. Glish (040), Analytical Chemistry
Leslie M. Hicks (035), Analytical Chemistry
Brian P. Hogan (072), Chemistry Education, Academic Advising, Lab Curriculum Development
Jeffrey S. Johnson (058), Organic Chemistry
Yosuke Kanai (081), Physical Chemistry
David S. Lawrence (076), Organic Chemistry
Bo Li (085), Biological Chemistry
Gerald J. Meyer (054), Inorganic Chemistry
Alexander J. Miller (004), Inorganic Chemistry
Andrew M. Moran (006), Physical Chemistry
David A. Nicewicz (078), Organic Chemistry
Gary J. Pielak (046), Biological Chemistry
Matthew R. Redinbo (055), Biological Chemistry
Mark H. Schoenfisch (057), Analytical and Materials Chemistry
Sergei S. Sheiko (059), Polymer and Materials Chemistry
Jason D. Surratt (074), Analytical Chemistry
Joseph L. Templeton (031), Inorganic Chemistry
Domenic Tiani (071), Chemistry Education, Academic Advising, Lab Curriculum Development
Marcey Waters (056), Organic Chemistry
Kevin M. Weeks (053), Biological Chemistry
Wei You (042), Polymer and Materials Chemistry

Associate Professors

Erin Baker (012), Analytical Chemistry
Joshua E. Beaver (089), Chemistry Education, Academic Advising
Carribeth L. Bliem (083), Chemistry Education, Academic Advising
Nita Eskew (091), Chemistry Education, Academic Advising, Lab Curriculum Development
Frank A. Leibfarth (010), Organic, Polymer and Materials Chemistry
Matthew R. Lockett (037), Analytical Chemistry
Simon J. Meek (079), Organic Chemistry
Scott C. Warren (063), Polymer and Materials Chemistry
Danielle Zurcher (090), Chemistry Education, Academic Advising

Assistant Professors

Elizabeth C. Brunk (050), Biological Chemistry
Anna C. Curtis (073), Chemistry Education, Academic Advising, Lab Curriculum Development
Jade Fostvedt (039), Chemistry Education, Inorganic and Organometallic Chemistry
Megan Jackson (104), Inorganic, Physical and Materials Chemistry
Abigail Knight (014), Organic and Biological Chemistry
Huong Kratochvil (101), Biological Chemistry
Zhiyue Lu (009), Physical Chemistry
Elisa Pieri (025), Physical Chemistry
Sidney M. Wilkerson-Hill (013), Organic Chemistry
Alex Zhukhovitskiy (008), Organic, Polymer and Materials Chemistry

Professors Emeriti

Nancy L. Allbritton
Tomas Baer
Max L. Berkowitz
James L. Coke
Michael T. Crimmins
Joseph Desimone
Richard G. Hiskey
Eugene A. Irene
Richard C. Jarnagin
Donald C. Jicha
Charles S. Johnson Jr.
James W. Jorgenson
Thomas J. Meyer
Royce W. Murray
John Papanikolas
Robert G. Parr
Lee G. Pedersen
J. Michael Ramsey
Michael Rubinstein
Cynthia Schauer
Nancy Thompson
R. Mark Wightman

Chemistry (CHEM)

Advanced Undergraduate and Graduate-level Courses

CHEM 403. Environmental Chemistry Processes. 3 Credits.
Required preparation, a background in chemistry and mathematics, including ordinary differential equations. Chemical processes occurring in natural and engineered systems: chemical cycles; transport and transformation processes of chemicals in air, water, and multimedia environments; chemical dynamics; thermodynamics; structure/activity relationships.

Rules & Requirements
Requisites: Pre- or corequisite, CHEM 261.
Grading Status: Letter grade.
Same as: ENVR 403, ENEC 403.

CHEM 410. Instructional Methods in the Chemistry Classroom. 4 Credits.
Permission of the instructor. This course explores secondary school chemical education through current chemical education theory and classroom teaching. Students will develop a comprehensive approach to teaching chemistry content through student-centered activities.

Rules & Requirements
Requisites: Prerequisites, CHEM 241, 251, 262, and 262L.
Grading Status: Letter grade.

CHEM 420. Introduction to Polymers. 3 Credits.
Chemical structure and nomenclature of macromolecules, synthesis of polymers, characteristic polymer properties. Previously offered as APPL 420.

Rules & Requirements
Requisites: Prerequisite, CHEM 261 or 261H; Pre- or corequisites, CHEM 262 or 262H, and 262L or 263L.
Grading Status: Letter grade.

CHEM 421. Synthesis of Polymers. 3 Credits.
Synthesis and reactions of polymers; various polymerization techniques. Previously offered as APPL 421.

Rules & Requirements
Requisites: Prerequisites, CHEM 251 and 262 or 262H.
Grading Status: Letter grade.

CHEM 422. Physical Chemistry of Polymers. 3 Credits.
Polymerization and characterization of macromolecules in solution. Previously offered as APPL 422.

Rules & Requirements
Requisites: Prerequisites, CHEM 420 and 481.
Grading Status: Letter grade.

CHEM 423. Intermediate Polymer Chemistry. 3 Credits.
Polymer dynamics, networks and gels. Previously offered as APPL 423.

Rules & Requirements
Requisites: Prerequisite, CHEM 422.
Grading Status: Letter grade.

CHEM 425. Polymer Materials. 3 Credits.
Solid-state properties of polymers; polymer melts, glasses and crystals.

Rules & Requirements
Requisites: Prerequisite, CHEM 421 or 422.
Grading Status: Letter grade.

CHEM 430. Introduction to Biological Chemistry. 3 Credits.
The study of cellular processes including catalysts, metabolism, bioenergetics, and biochemical genetics. The structure and function of biological macromolecules involved in these processes is emphasized. Honors version available.

Rules & Requirements
Requisites: Prerequisites, BIOL 101, and CHEM 262 or 262H.
Grading Status: Letter grade.
Same as: BIOL 430.

CHEM 431. Macromolecular Structure and Metabolism. 3 Credits.
Structure of DNA and methods in biotechnology; DNA replication and repair; RNA structure, synthesis, localization and transcriptional reputation; protein structure/function, biosynthesis, modification, localization, and degradation.

Rules & Requirements
Requisites: Prerequisites, CHEM 430 and BIOL 220 or BIOL 202.
Grading Status: Letter grade.

CHEM 432. Metabolic Chemistry and Cellular Regulatory Networks. 3 Credits.
Biological membranes, membrane protein structure, transport phenomena; metabolic pathways, reaction themes, regulatory networks; metabolic transformations with carbohydrates, lipids, amino acids, and nucleotides; regulatory networks, signal transduction.

Rules & Requirements
Requisites: Prerequisite, CHEM 430.
Grading Status: Letter grade.

CHEM 433. Introduction to Biochemistry for Majors. 3 Credits.
Chemistry is the scientific study of the composition and properties of matter and the investigation of the laws that govern them. All chemists have a common core of knowledge, learned through a highly structured sequence of undergraduate courses in which the content is divided into the classical subdisciplines. The B.S. chemistry, biochemistry track degree provides students with the opportunity to specialize in biochemistry and chemical biology. This course is for Chemistry or Biology Majors. All other majors require permission from instructor.

Rules & Requirements
Requisites: Prerequisites, BIOL 101L and CHEM 262 (or CHEM 262H).
Grading Status: Letter grade.

CHEM 441. Intermediate Analytical Chemistry. 3 Credits.
Spectroscopy, electroanalytical chemistry, chromatography, thermal methods of analysis, signal processing.

Rules & Requirements
Requisites: Prerequisites, CHEM 241, 241L, 262, and 480 or 481.
Grading Status: Letter grade.

CHEM 441L. Intermediate Analytical Chemistry Laboratory. 2 Credits.
Experiments in spectroscopy, electroanalytical chemistry, chromatography, thermal methods of analysis, and signal processing. One four-hour laboratory a week and one one-hour lecture.

Rules & Requirements
Requisites: Corequisite, CHEM 441.
Grading Status: Letter grade.

CHEM 443. Surface Analysis. 3 Credits.
This class will focus on analytical techniques capable of probing the physical and chemical properties of surfaces and interfaces. These analyses are extremely challenging, as the sample sizes are small (e.g., 1E14 molecules/cm2 of a material). The course will focus on complementary techniques to assess surface structure and topography, atomic and molecular composition, organization or disorder, and reactivity.

Rules & Requirements
Requisites: Prerequisite, CHEM 441 or CHEM 481; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

CHEM 444. Separations. 3 Credits.
Theory and applications of equilibrium and nonequilibrium separation techniques. Extraction, countercurrent distribution, gas chromatography, column and plane chromatographic techniques, electrophoresis, ultra-centrifugation, and other separation methods.

Rules & Requirements
Requisites: Prerequisites, CHEM 441 and CHEM 480 or 481.
Grading Status: Letter grade.

CHEM 445. Electroanalytical Chemistry. 3 Credits.
Basic principles of electrochemical reactions, electroanalytical voltammetry as applied to analysis, the chemistry of heterogeneous electron transfers, and electrochemical instrumentation.

Rules & Requirements
Requisites: Prerequisites, CHEM 480 or 481, and CHEM 441.
Grading Status: Letter grade.

CHEM 446. Analytical Spectroscopy. 3 Credits.
Optical spectroscopic techniques for chemical analysis including conventional and laser-based methods. Absorption, fluorescence, scattering and nonlinear spectroscopies, instrumentation and signal processing.

Rules & Requirements
Requisites: Prerequisites, CHEM 441 and 482.
Grading Status: Letter grade.

CHEM 447. Bioanalytical Chemistry. 3 Credits.
Principles and applications of biospecific binding as a tool for performing selective chemical analysis.

Rules & Requirements
Requisites: Prerequisite, CHEM 441.
Grading Status: Letter grade.

CHEM 448. Mass Spectrometry. 3 Credits.
Fundamental theory of gaseous ion chemistry, instrumentation, combination with separation techniques, spectral interpretation for organic compounds, applications to biological and environmental chemistry.

Rules & Requirements
Requisites: Prerequisites, CHEM 480 or 481, and CHEM 441.
Grading Status: Letter grade.

CHEM 449. Microfabricated Chemical Measurement Systems. 3 Credits.
Introduction to micro and nanofabrication techniques, fluid and molecular transport at the micrometer to nanometer length scales, applications of microtechnology to chemical and biochemical measurements.

Rules & Requirements
Requisites: Prerequisite, CHEM 441.
Grading Status: Letter grade.

CHEM 450. Intermediate Inorganic Chemistry. 3 Credits.
Introduction to symmetry and group theory; bonding, electronic spectra, and reaction mechanisms of coordination complexes; organometallic complexes, reactions, and catalysis; bioinorganic chemistry. Honors version available.

Rules & Requirements
Requisites: Prerequisite, CHEM 251.
Grading Status: Letter grade.

CHEM 451. Theoretical Inorganic Chemistry. 3 Credits.
Chemical applications of symmetry and group theory, crystal field theory, molecular orbital theory. The first third of the course, corresponding to one credit hour, covers point symmetry, group theoretical foundations and character tables.

Rules & Requirements
Requisites: Prerequisites, CHEM 262 or 262H and 450.
Grading Status: Letter grade.

CHEM 452. Electronic Structure of Transition Metal Complexes. 3 Credits.
A detailed discussion of ligand field theory and the techniques that rely on the theoretical development of ligand field theory, including electronic spectroscopy, electron paramagnetic resonance spectroscopy, and magnetism.

Rules & Requirements
Requisites: Prerequisite, CHEM 451.
Grading Status: Letter grade.

CHEM 453. Organotransition Metal Chemistry. 2 Credits.
Exploring the synthesis, bonding, and reactivity of of organotransition metal complexes. Topics typically include organometallic ligand classification, the elementary steps of organometallic reactions, and applications in catalysis.

Rules & Requirements
Requisites: Prerequisite, CHEM 465.
Grading Status: Letter grade.

CHEM 460. Intermediate Organic Chemistry. 3 Credits.
Modern topics in organic chemistry. Honors version available.

Rules & Requirements
Requisites: Prerequisite, CHEM 262 or 262H.
Grading Status: Letter grade.

CHEM 463. Bioorganic Chemistry. 3 Credits.
Bioorganic chemistry integrates topics from synthetic chemistry, biochemistry, and biophysics to study biomacromolecules and develop tools and materials that utilize them.

Rules & Requirements
Requisites: Prerequisites, CHEM 262 and CHEM 430.
Grading Status: Letter grade.

CHEM 465. Mechanisms of Organic and Inorganic Reactions. 4 Credits.
Kinetics and thermodynamics, free energy relationships, isotope effects, acidity and basicity, kinetics and mechanisms of substitution reactions, one- and two-electron transfer processes, principles and applications of photochemistry, organometallic reaction mechanisms.

Rules & Requirements
Requisites: Prerequisite, CHEM 450.
Grading Status: Letter grade.

CHEM 466. Advanced Organic Chemistry I. 3 Credits.
A survey of fundamental organic reactions including substitutions, additions, elimination, and rearrangements; static and dynamic stereochemistry; conformational analysis; molecular orbital concepts and orbital symmetry.

Rules & Requirements
Requisites: Prerequisite, CHEM 460.
Grading Status: Letter grade.

CHEM 467. Advanced Organic Chemistry II. 2 Credits.
Spectroscopic methods of analysis with emphasis on elucidation of the structure of organic molecules: 1H and 13C NMR, infrared, ultraviolet, ORD-CD, mass, and photoelectron spectroscopy.

Rules & Requirements
Requisites: Prerequisite, CHEM 466.
Grading Status: Letter grade.

CHEM 468. Synthetic Aspects of Organic Chemistry. 3 Credits.
Modern synthetic methods and their application to the synthesis of complicated molecules.

Rules & Requirements
Requisites: Prerequisite, CHEM 466.
Grading Status: Letter grade.

CHEM 469. Organometallics and Catalysis. 3 Credits.
Structure and reactivity of organometallic complexes and their role in modern catalytic reactions

Rules & Requirements
Requisites: Prerequisites, CHEM 450 and 466.
Grading Status: Letter grade.

CHEM 470. Fundamentals of Materials Science. 3 Credits.
Crystal geometry, diffusion in solids, mechanical properties of solids, electrical conduction in solids, thermal properties of materials, phase equilibria. Previously offered as APPL 470.

Rules & Requirements
Requisites: Prerequisite, CHEM 482 or PHYS 128; Pre- or corequisite, PHYS 441.
Grading Status: Letter grade.

CHEM 472. Chemistry and Physics of Electronic Materials Processing. 3 Credits.
A survey of materials processing and characterization used in fabricating microelectronic devices. Crystal growth, thin film deposition and etching, and microlithography. Previously offered as APPL 472. Permission of the instructor.

Rules & Requirements
Requisites: Prerequisite, CHEM 482 or PHYS 117 or 119.
Grading Status: Letter grade.
Same as: PHYS 472.

CHEM 473. Chemistry and Physics of Surfaces. 3 Credits.
The structural and energetic nature of surface states and sites, experimental surface measurements, reactions on surfaces including bonding to surfaces and adsorption, interfaces. Previously offered as APPL 473.

Rules & Requirements
Requisites: Prerequisite, CHEM 470.
Grading Status: Letter grade.

CHEM 480. Introduction to Biophysical Chemistry. 3 Credits.
Does not carry credit toward graduate work in chemistry or credit toward any track of the B.S. degree with a major in chemistry. Application of thermodynamics to biochemical processes, enzyme kinetics, properties of biopolymers in solution.

Rules & Requirements
Requisites: Prerequisites, CHEM 261 or 261H; and MATH 232; Pre- or corequisite, PHYS 105, or 115, or 117, or 119.
Grading Status: Letter grade.

CHEM 481. Physical Chemistry I. 3 Credits.
Thermodynamics, kinetic theory, chemical kinetics.

Rules & Requirements
Requisites: Prerequisites, CHEM 102 or 102H, PHYS 118 or 116; pre- or corequisites, MATH 383 and PHYS 119 or 117; C- or better required in chemistry course prerequisites.
Grading Status: Letter grade.

CHEM 481L. Physical Chemistry Laboratory I. 2 Credits.
Experiments in physical chemistry. One four-hour laboratory each week.

Rules & Requirements
Requisites: Pre- or corequisite, CHEM 482.
Grading Status: Letter grade.

CHEM 482. Physical Chemistry II. 3 Credits.
Introduction to quantum mechanics, atomic and molecular structure, spectroscopy, statistical mechanics.

Rules & Requirements
Requisites: Prerequisite, CHEM 481.
Grading Status: Letter grade.

CHEM 482L. Physical Chemistry Laboratory II. 2 Credits.
Experiments in physical chemistry. Solving thermodynamic and quantum mechanical problems using computer simulations. One three-hour laboratory and a single one-hour lecture each week.

Rules & Requirements
Requisites: Prerequisite, CHEM 482.
Grading Status: Letter grade.

CHEM 484. Thermodynamics and Introduction to Statistical Thermodynamics. 3 Credits.
Thermodynamics, followed by an introduction to the classical statistical mechanics and non-equilibrium thermodynamics.

Rules & Requirements
Requisites: Prerequisite, CHEM 482.
Grading Status: Letter grade.

CHEM 485. Chemical Dynamics. 3 Credits.
Experimental and theoretical aspects of atomic and molecular reaction dynamics.

Rules & Requirements
Requisites: Prerequisites, CHEM 481 and 482.
Grading Status: Letter grade.

CHEM 486. Introduction to Quantum Chemistry. 3 Credits.
Introduction to the principles of quantum mechanics. Approximation methods, angular momentum, simple atoms and molecules.

Rules & Requirements
Requisites: Prerequisites, CHEM 481 and 482.
Grading Status: Letter grade.

CHEM 487. Introduction to Molecular Spectroscopy. 3 Credits.
Interaction of radiation with matter; selection rules; rotational, vibrational, and electronic spectra of molecules; laser based spectroscopy and nonlinear optical effects.

Rules & Requirements
Requisites: Prerequisite, CHEM 486.
Grading Status: Letter grade.

CHEM 488. Quantum Chemistry. 3 Credits.
Applications of quantum mechanics to chemistry. Molecular structure, time-dependent perturbation theory, interaction of radiation with matter.

Rules & Requirements
Requisites: Prerequisite, CHEM 486.
Grading Status: Letter grade.

CHEM 489. Statistical Mechanics. 3 Credits.
Applications of statistical mechanics to chemistry. Ensemble formalism, condensed phases, nonequilibrium processes.

Rules & Requirements
Requisites: Prerequisite, CHEM 484.
Grading Status: Letter grade.

CHEM 492. Molecular Modeling in Chemistry. 2 Credits.
This course is offered to first-year graduate and upper-class undergraduate students in different chemistry disciplines who are interested in gaining skills in molecular modeling using modern methodologies from computational chemistry. No prior experience is required. An overview of quantum mechanics (QM) and molecular dynamics (MD) methodologies will be provided. It will also provide extensive experiences to perform different types of computations with abundant hands-on exercises using Gaussian package for QM and LAMMPS for MD simulations.

Rules & Requirements
Grading Status: Letter grade.

CHEM 495. Advanced Methods in Computational Chemistry. 3 Credits.
The course is offered to graduate students and advanced undergraduate students. The course covers the foundations of modern computational chemistry from a theoretical perspective: Hartree-Fock theory, DFT, post-Hartree-Fock methods, classical force fields, basis sets, photochemistry, QM/MM frameworks, molecular dynamics, optimization algorithms. Lectures are accompanied by in-class exercises and tutorials.

Rules & Requirements
Requisites: Prerequisite, CHEM 486.
Grading Status: Letter grade.

CHEM 520L. Polymer Chemistry Laboratory. 2 Credits.
Various polymerization techniques and characterization methods. One four-hour laboratory each week. Previously offered as APPL 520L.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Requisites: Pre- or corequisite, CHEM 420 or 421 or 425.
Grading Status: Letter grade.

CHEM 530L. Laboratory Techniques for Biochemistry. 3 Credits.
An introduction to chemical techniques and research procedures of use in the fields of protein and nucleic acid chemistry. Two four-hour laboratories and one one-hour lecture a week.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Requisites: Prerequisites, BIOL 202 or BIOL 220; pre- or co-requisite, CHEM 430.
Grading Status: Letter grade.

CHEM 541L. Advanced Instrumentation and Analytical Measurement Laboratory. 2 Credits.
A laboratory devoted to modern instrumental methods and analytical techniques. One four-hour laboratory and one one-hour lecture each week.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Requisites: Pre- or corequisite, CHEM 441.
Grading Status: Letter grade.

CHEM 550L. Synthetic Chemistry Laboratory I. 2 Credits.
A laboratory devoted to synthesis and characterization of inorganic complexes and materials. A four-hour synthesis laboratory, a characterization laboratory outside of the regular laboratory period, and a one-hour recitation each week.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Requisites: Prerequisites, CHEM 241L or 245L, 251, and 262L or 263L.
Grading Status: Letter grade.

CHEM 551L. Honors Synthetic Chemistry Lab. 2 Credits.
This is an honors laboratory course designed to lead you from challenging introductory experiments to five weeks of laboratory work on an independent research project. In addition to exposing you to advanced synthetic techniques, this course will allow you to use multiple modern techniques to characterize the inorganic and organometallic complexes you prepare. Students may not receive credit in both CHEM 551L and CHEM 550L.

Rules & Requirements
Requisites: Prerequisites, CHEM 262L and 251.
Grading Status: Letter grade.

CHEM 692H. Senior Honors Thesis. 3 Credits.
CHEM 395 or equivalent must have been in the same laboratory as 692H. Senior majors only. Required of all candidates for honors or highest honors.

Rules & Requirements
Requisites: Prerequisite, six credit hours of CHEM 395 or equivalent research experience in same laboratory as 692H.
Grading Status: Letter grade.

Graduate-level Courses

CHEM 701. Introduction to Laboratory Safety. 1 Credits.
Permission of the instructor for undergraduates. This introductory course in laboratory chemical safety is required for all entering chemistry graduate students. Topics include laboratory emergencies, chemical hazards, laboratory inspections and compliance, working with chemicals, waste handling, case studies of university accidents, laboratory equipment, biosafety, radiation, animals, and microfabrication and nanomaterials.

Rules & Requirements
Grading Status: Letter grade.

CHEM 721. Seminar in Materials Chemistry. 2 Credits.
Graduate standing required.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

CHEM 730. Chemical Biology. 2-4 Credits.
Application of chemical principles and tools to study and manipulate biological systems; in-depth exploration of examples from the contemporary literature. Topics include new designs for the genetic code, drug design, chemical arrays, single molecule experiments, laboratory-based evolution, chemical sensors, and synthetic biology.

Rules & Requirements
Requisites: Prerequisite, CHEM 430.
Grading Status: Letter grade.

CHEM 731. Seminar in Biological Chemistry. 2 Credits.
Graduate standing required. Literature survey dealing with topics in protein chemistry and nucleic acid chemistry.

Rules & Requirements
Grading Status: Letter grade.

CHEM 732. Advances in Macromolecular Structure and Function. 3 Credits.
In-depth analysis of the structure-function relationships governing protein-protein and protein-nucleic acid interactions. Topics include replication, DNA repair, transcription, translation, RNA processing, protein complex assembly, and enzyme regulation. Course includes both the current and classic literature that highlight the techniques used to study these processes.

Rules & Requirements
Grading Status: Letter grade.

CHEM 733. Special Topics in Biological Chemistry. 0.5-21 Credits.
Modern topics in biological chemistry.

Rules & Requirements
Grading Status: Letter grade.

CHEM 741. Literature Seminar in Analytical Chemistry. 2 Credits.
Graduate standing required. Colloquium of modern analytical chemistry topics presented by graduate students and select invited speakers.

Rules & Requirements
Grading Status: Letter grade.

CHEM 742. Analytical Research Techniques. 2 Credits.
Introduction to chemical instrumentation including digital and analog electronics, computers, interfacing, and chemometric techniques. Two one-hour lectures a week.

Rules & Requirements
Grading Status: Letter grade.

CHEM 742L. Laboratory in Analytical Research Techniques. 2 Credits.
Experiments in digital and analog instrumentation, computers, interfacing and chemometrics, with applications to chemical instrumentation.

Rules & Requirements
Requisites: Co-requisite, CHEM 742.
Grading Status: Letter grade.

CHEM 744. Special Topics in Analytical Chemistry. 0.5-21 Credits.
Modern topics in analytical chemistry, including advanced electroanalytical chemistry, advanced mass spectrometry, chemical instrumentation, and other subjects of recent significance. Two lecture hours a week.

Rules & Requirements
Grading Status: Letter grade.

CHEM 745. Analytical Technical Writing Workshop. 1 Credits.
Students will participate in 12 workshop sessions co-presented by the instructor and TA covering the basics of technical writing. Each workshop is designed to help students prepare successful proposals for external graduate fellowships, but skills practiced are readily extended to the 2nd-year prospectus, manuscript preparation, the thesis, and beyond.

Rules & Requirements
Repeat Rules: May be repeated for credit. 3 total credits. 1 total completions.
Grading Status: Letter grade.

CHEM 752. Special Topics in Inorganic Chemistry. 0.5-21 Credits.
Permission of the instructor. Research-level survey of topics in inorganic chemistry and related areas.

Rules & Requirements
Grading Status: Letter grade.

CHEM 754. Literature Seminar in Inorganic Chemistry. 2 Credits.
Graduate standing required.

Rules & Requirements
Grading Status: Letter grade.

CHEM 755. Inorganic Technical Writing Workshop. 1 Credits.
Students will participate in 11 workshop sessions co-presented by the instructor and TA covering the basics of technical writing. They are designed to help students prepare successful proposals for external graduate fellowships, but skills practiced are readily extended to the 2nd-year prospectus, 3rd-year proposal, manuscript preparation, the thesis, and beyond.

Rules & Requirements
Grading Status: Letter grade.

CHEM 758. Introduction to Chemical Crystallography. 3 Credits.
The course "Introduction to Chemical Crystallography" is intended for graduate students who wish to acquire a basic understanding of crystallography, the mathematical foundations of diffraction principles, the hands-on experience in the operation of X-ray diffractometers, computer software for crystal structure determination and visualization, as well as crystallographic databases. The goal of the course is to prepare students to independently operate diffractometers and carry out X-ray structure determinations for their Ph.D. or M.S. theses.

Rules & Requirements
Requisites: Prerequisites, Knowledge of elementary and differential calculus is assumed; this course is designed to introduce students to the techniques used in solving and refining crystal structures by the use of X-ray diffraction; no prior knowledge of crystallography is required, but students are required to pass the radiation safety exam in the first week of the course.
Grading Status: Letter grade.

CHEM 761. Seminar in Organic Chemistry. 2 Credits.
Graduate standing required. One afternoon meeting a week and individual consultation with the instructor.

Rules & Requirements
Grading Status: Letter grade.

CHEM 764. Special Topics in Organic Chemistry. 1-3 Credits.
Two lecture hours a week.

Rules & Requirements
Repeat Rules: May be repeated for credit. 9 total credits. 9 total completions.
Grading Status: Letter grade.

CHEM 765. Modern Free Radical Chemistry. 3 Credits.
This course is intended for 2nd year and higher graduate students who have the appropriate prerequisites or permission from the instructor(s). The topics covered in this course pertain to modern radical chemistry in organic synthesis and the goal is to prepare students for the implementation of radical chemistry in advanced applications.

Rules & Requirements
Requisites: Prerequisite, CHEM 466 or permission of the instructor.
Grading Status: Letter grade.

CHEM 780. Advanced Materials Science. 3 Credits.
This course covers the physical fundamentals of material science with an in-depth discussion of structure formation in soft and hard materials and how structure determines material mechanical, electrical, thermal, and optical properties. Topics include amorphous and crystal structures, defects, dislocation theory, thermodynamics and phase diagrams, diffusion, interfaces and microstructures, solidification, and theory of phase transformation. Special emphasis will be on the structure-property relationships of (bio)polymers, (nano)composites, and their structure property relationships.

Rules & Requirements
Grading Status: Letter grade.
Same as: MTSC 780, BMME 780, PHYS 780.

CHEM 781. Seminar in Physical Chemistry. 2 Credits.
Graduate standing required. Two hours a week.

Rules & Requirements
Grading Status: Letter grade.

CHEM 783. Special Topics in Physical Chemistry. 0.5-21 Credits.
Permission of the instructor. Modern topics in physical chemistry, chemical physics, or biophysical chemistry. One to three lecture hours a week.

Rules & Requirements
Grading Status: Letter grade.

CHEM 786. Special Topics in Physical Chemistry. 0.5-21 Credits.
Permission of the instructor. Modern topics in physical chemistry, chemical physics, or biophysical chemistry. One to three lecture hours a week.

Rules & Requirements
Grading Status: Letter grade.

CHEM 791. Special Topics in Chemistry. 1-4 Credits.
Selected research-level, cross-disciplinary topics in modern chemistry.

Rules & Requirements
Grading Status: Letter grade.

CHEM 921. Research Methodology and Seminar in Polymer/Materials Chemistry. 1-21 Credits.
Seminar and directed study on research methods of polymer/materials chemistry. This course provides a foundation for master's thesis or doctoral dissertation research.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

CHEM 931. Research Methodology and Seminar in Biological Chemistry. 1-21 Credits.
Seminar and directed study on research methods of biological chemistry. This course provides a foundation for master's thesis or doctoral dissertation research.

Rules & Requirements
Grading Status: Letter grade.

CHEM 941. Research Methodology and Seminar in Analytical Chemistry. 1-21 Credits.
Seminar and directed study on research methods of analytical chemistry. The course provides a foundation for master's thesis or doctoral dissertation research.

Rules & Requirements
Grading Status: Letter grade.

CHEM 951. Research Methodology and Seminar in Inorganic Chemistry. 1-21 Credits.
Seminar and directed study on research methods of inorganic chemistry. The course provides a foundation for master's thesis or doctoral dissertation research.

Rules & Requirements
Grading Status: Letter grade.

CHEM 961. Research Methodology and Seminar in Organic Chemistry. 1-21 Credits.
Seminar and directed study on research methods of organic chemistry. The course provides a foundation for master's thesis or doctoral dissertation research.

Rules & Requirements
Grading Status: Letter grade.

CHEM 981. Research Methodology and Seminar in Physical Chemistry. 1-21 Credits.
Seminar and directed study on research methods of physical chemistry. The course provides a foundation for master's thesis or doctoral dissertation research.

Rules & Requirements
Grading Status: Letter grade.

CHEM 992. Master's (Non-Thesis). 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

CHEM 993. Master's Research and Thesis. 3 Credits.
Rules & Requirements
Requisites: Prerequisite, CHEM 921, 931, 941, 951, 961, or 981.
Repeat Rules: May be repeated for credit.

CHEM 994. Doctoral Research and Dissertation. 3 Credits.
Rules & Requirements
Requisites: Prerequisite, CHEM 921, 931, 941, 951, 961, or 981.
Repeat Rules: May be repeated for credit.

Contact Information

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DEPARTMENT OF CITY AND REGIONAL PLANNING (GRAD)

Carolina Planning is one of the most established and well-respected planning programs in the country, with an alumni network that spans the globe. Its faculty members, world-class scholars leading cutting-edge research, are redefining the field of planning.

City and regional planning is an interdisciplinary field that seeks to improve the quality of life for people in human settlements. Planners are involved, for example, in forecasting alternative futures of a city or region, guiding the type and location of new development, analyzing transportation systems, encouraging economic development, protecting the environment, mediating diverse interests, and revitalizing urban neighborhoods. They are involved in designing solutions to pressing societal problems such as urban sprawl, unemployment, homelessness, environmental pollution, and urban decay.

City and regional planners work for a variety of public, nonprofit, and private organizations. In the public sector, local, state, and federal governments all employ city and regional planners. In the nonprofit sector, planners work for national, state, and local advocacy groups promoting sustainable development. In the private sector, planners work for development companies and consulting firms.

Two graduate programs are offered in city and regional planning:

The Professional Master's Degree Program

The program leading to the degree of master of city and regional planning prepares the candidate for **professional planning practice**. The curriculum covers social and institutional problems and provides students with training in planning, public policy research, and management skills.

The Doctoral Program

The doctoral program in planning provides training in **research** methods, planning theory, and areas of specialization that enable graduates to contribute to the development of substantive theory, knowledge, and scholarship in planning; to formulate and evaluate innovative public policy; and to administer research programs in domestic and international contexts. The program is small but highly selective and individualized. It is ideal for mature students from a variety of backgrounds.

Extra-Curricular Opportunities

Within Carolina Planning

Transportation Research @ UNC (TRUNC)

TRUNC organizes regular seminars, lectures and discussions to support the intellectual community in transportation planning within DCRP.

Community Engagement Laboratory (CEL)

CEL uses a community engaged scholarship lens to carry on the tradition of UNC's former Center of Urban and Regional Studies, whose mission over nearly 70 years served "to promote and support within UNC-Chapel Hill, high-quality basic and applied research on urban, regional and rural planning and policy issues." Led by Profs. Danielle Spurlock, Ashley Hernandez, Matthew Palm, and Tab Combs, the CEL partners with residents, community organizations, and local governments to respond to data requests and community driven research needs.

Planner's Forum

This graduate student organization acts as a liaison between MCRP students and DCRP faculty and also manages student organization resources.

Build UP

This undergraduate student organization creates and promotes a campus-wide interest in urban planning, and sustainable development.

Carolina Planning Journal

The Carolina Planning Journal (http://carolinaplanning.unc.edu/) is the oldest student-run planning journal in the United States. It provides a platform for students and researchers across the country to publish papers related to planning topics varying from year to year. Within the planning department, students can work directly with authors to edit and develop papers as well as publish book reviews on an annual basis. The journal's blog, Carolina (http://carolinaangles.com/) Angles (http://carolinaangles.com/), features writing from students and the wider planning community. Every year a planning student serves as the Editor-in-Chief and works closely alongside the Angles blog editor to plan for content creations, develop the annual call for papers, and run logistics for Journal publication

The Institute for Transportation Engineers, UNC Chapter

The Institute of Transportation Engineers (ITE) is an international membership association of transportation professionals who work to improve mobility and safety for all transportation system users and help build smart and livable communities.

NC Women's Affordable Housing Network, UNC Chapter

The North Carolina Women's Affordable Housing Network (NCWAHN) is an organization committed to the empowerment and development of women who work in affordable housing through partnership, professional development, and networking. It is their goal to create a state-wide organization that brings together and supports women from all sectors of the affordable housing industry to carry out our mission.

Outside Carolina Planning

Outside of the Department, our students and faculty collaborate closely with the following units on campus:

- The Development Finance Initiative (https://dfi.sog.unc.edu/)
- The Institute for the Environment (https://ie.unc.edu/)
- The Environmental Finance Center (https://efc.sog.unc.edu/)
- The Highway Safety Research Center (https://www.hsrc.unc.edu/)
- The Carolina Population Center (https://www.cpc.unc.edu/)
- The Coastal Resilience Center (https://coastalresiliencecenter.org/)
- NC Growth (https://ncgrowth.kenaninstitute.unc.edu/)
- The Center for Health Promotion and Disease Prevention (https://hpdp.unc.edu/)

City and Regional Planning, Master's Program (M.C.R.P.)

The program leading to the degree of master of city and regional planning prepares the candidate for professional planning practice. The curriculum covers social and institutional problems and provides students with training in planning, public policy research, and management skills.

Satisfactory completion of the degree requires completion of a minimum of 51 credit hours, including an area of specialization and a master's project in that area. The normal course load is 12 to 15 credit hours per semester. Thirty-six of the required 51 credits must be taken in the Department of City and Regional Planning.

Coursework for the degree is divided into core requirements, area of specialization, and electives. Each student is assisted by a faculty advisor in designing an educational program. The advisor helps select courses appropriate for the student's educational interests and goals.

Course Requirements

All master's degree students are expected to meet certain general course requirements. These consist of courses covering planning theory, urban spatial theory, applied microeconomics, analytical methods, law, and a planning workshop. These basic course topics constitute a core of knowledge and skills necessary#to completion of the master's degree program.

Code	Title	Hours
Core Courses		
PLAN 704	Theory of Planning I	3
PLAN 710	Microeconomics for Planning and Public Policy Analysis [1]	3
PLAN 714	Urban Spatial Structure	3
PLAN 720	Planning Methods	3
PLAN 724	Introduction to Law for Planners [2]	3
PLAN 715	Introduction to GIS for Urban Planners [1]	1.5
Electives		
16.5 total credit hours required		16.5
Specialization		
12 total credit hours required per the student's selected specialization area.		12
Thesis/Substitute or Dissertation		
PLAN 823	Planning Workshop [3]	3
PLAN 992	Master's (Non-Thesis) [3]	3
Minimum Hours		**51**

[1] Students may test out.
[2] Or alternative Law course approved by advisor.
[3] Must be taken in the last year of the program.

Specialization Areas

The department offers four specializations associated with professional planning practice.

- Economic development focuses on planning for functional and sustainable regional economies and issues of income and jobs for central city areas.
- Housing and community development is concerned with the supply of affordable housing, the revitalization of urban neighborhoods, project development, and central city redevelopment.
- Land use and environmental planning addresses growth management at the urban and regional scales, environmental management, and policy analysis with emphasis on water resources.
- Transportation planning provides concepts and tools relevant to transportation policy and planning and in-depth knowledge of the reciprocal relationship between transportation decisions and land development.

Specialization courses account for 12 credit hours. All MCRP students must complete at least one area of specialization.

Code	Title	Hours
Land Use and Environmental Planning Specialization		
PLAN 740	Land Use and Environmental Policy	3
PLAN 741	Land Use and Environmental Planning	3
And any two courses from the following list:		6
PLAN 547	Energy, Transportation, and Land Use	
PLAN 641	Watershed Planning	
PLAN 744	Development and Environmental Management	
PLAN 745	Development Impact Assessment	
PLAN 752	Project and Site Planning	
PLAN 655	Planning for Natural Hazards and Climate Risk	
PLAN 548	Sustainable Energy Systems	
PLAN 725	Development Dispute Resolution	
PLAN 635	Energy Modeling for Environment and Public Health	
PLAN 787	Applied Environmental Finance: How to Pay for Environmental Services	
Or alternative courses approved by advisor		
Economic Development Specialization		
PLAN 671	Development Planning Techniques	3
PLAN 677	Perspectives on Economic Development	3
And any two courses from the following list:		6
PLAN 670	Planning Equitable Economies	
PLAN 774	Planning for Jobs	
PLAN 735	Community Revitalization Applied	
PLAN 760	Real Estate Investment and Affordable Housing	
PLAN 764	Community Development & Revitalization Techniques	
PLAN 776	Development Finance	
PLAN 785	Public Investment Theory	
PLAN 787	Applied Environmental Finance: How to Pay for Environmental Services	
PLAN 574	Political Economy of Poverty and Inequality	
Or alternative courses approved by advisor		
Transportation Specialization		
PLAN 636	Urban Transportation Planning	3
PLAN 738	Transportation Policy and Planning	3
And any course from the following list:		3
PLAN 539	Understanding and Planning for Freight Flows	
PLAN 637	Public Transportation	
PLAN 639	Complete, Safe, Equitable Streets	
PLAN 739	Transportation Planning Models	
Or alternative course approved by advisor		
And One of the Following:		3
PLAN 741	Land Use and Environmental Planning	
PLAN 740	Land Use and Environmental Policy	
PLAN 547	Energy, Transportation, and Land Use	

PLAN 745	Development Impact Assessment	
PLAN 752	Project and Site Planning	
PLAN 785	Public Investment Theory	
Or alternative course approved by advisor		
Housing and Community Development Specialization		
PLAN 760	Real Estate Investment and Affordable Housing	3
PLAN 769	Housing & Community Development Planning and Policy	3
And any two courses from the following list:		6
PLAN 761	Housing and Public Policy	
PLAN 670	Planning Equitable Economies	
PLAN 725	Development Dispute Resolution	
PLAN 663	Diversity and Inequality in Cities	
PLAN 735	Community Revitalization Applied	
PLAN 670	Planning Equitable Economies	
PLAN 763	Urban Neighborhood Revitalization	
PLAN 764	Community Development & Revitalization Techniques	
PLAN 774	Planning for Jobs	
Or alternative courses approved by advisor		

Milestones

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 27) for more information.

- Master's Committee
- Master's Written Exam or Approved Substitute
- Residence Credit
- Thesis Substitute
- Exit Survey

Additional Information

MCRP Milestone Approved Substitutes

Master's Written Exam Substitute

The MCRP does not have a traditional comprehensive exam. Students in the MCRP instead meet this milestone by taking PLAN 823 Planning Workshop in their second or third (to account for dual degree students) year in the program.

Thesis Substitute

The MCRP does not have a traditional thesis. Students in the MCRP instead meet this requirement by completing a Master's Project (MP).

Master's Committee Substitute

The MCRP does not have a traditional examining committee. Students in the MCRP instead work *one-on-one with a faculty MP advisor.* Students receive additional input in the following ways:
At the start of the process:

1. Students *may* enroll in an MP Proposal Development Course where they receive feedback and support from the course instructor in the development of their proposal.
2. Students *must* submit their finished proposal to the department. Each proposal is reviewed by a faculty member with field-specific expertise. This faculty member then assigns the student's faculty advisor for one-on-one advising.

At the end of the process:

1. Students *must* develop a summary (executive summary, abstract, poster, etc.) to be shared with a faculty member in the department, different from their primary MP advisor, so they may benefit from additional perspectives.
2. Students *may* develop a 3-minute presentation of their poster. Posters with presentations are shared with faculty and the professional community of planners in the state of NC. The best MP of the year is selected from this group.

The student's final MP is approved by the student's MP advisor.

General Electives

Additional courses are required beyond the general required courses and courses in the area of specialization. General electives may be used to

1. Complement and support the area of specialization,
2. Specialize in another area of professional planning,
3. Develop skills in a discipline (e.g., economics, design, management) or another professional program represented on campus (e.g., public administration, health administration, environmental engineering, or business), or
4. Develop general competence for professional practice through courses selected both within the department and from the regular offerings of the University.

Up to 15 credits may be taken outside the department.

Master's Project

The required master's projectconstitutes original work involving substantial independent research and analysis of a topic related to planning practice. The requirement may be met by a paper of standard format. The requirement can also be fulfilled with a product in some other form, such as a plan or audiovisual presentation. Ordinarily students submit an individually prepared paper. The student submits the paper topic and outline to the director of the student's focus area. The director approves the topic and assigns a faculty member to serve as major advisor for the project. The student may invite another faculty member to serve as a reader. Both must approve the final project. The project is completed during the final semester in residence and is filed by the department as part of the permanent record of the student's work.

Dual-Degree Programs

Bachelor (Any Major at UNC) + M.C.R.P.

Students can complete this dual degree with any major at UNC and can finish both the undergraduate and graduate degrees in as little as 5 years. Students begin taking graduate-level planning courses in their second or third year at UNC and meet with program staff for group advising in the spring of their third year at UNC.

To apply to the dual degree program, please contact:
Dr. Matthew Palm, Director of Undergraduate Studies
Sarah Ward, Student Services Manager

Master of Environmental Management at Duke + M.C.R.P.

The dual degree program in environmental management and urban planning is the first of its kind, uniting two top-ranked programs to offer students a unique and highly sought-after mix of skills and knowledge and prepare them for a wide range of exciting careers in the private and

public sectors, including environmental policy and finance, renewable energy, and urban sustainability.

Students must apply and be admitted to both the M.C.R.P. program at UNC and the M.E.M. program at Duke (https://nicholas.duke.edu/academics/masters-programs/master-environmental-management/) independently. Students will earn both degrees in three years of study — one year at Duke, one year at UNC — and the third year will be a mix.

For more information:

- applygp.duke.edu/apply (http://applygp.duke.edu/apply/)
- admissions@nicholas.duke.edu

Law (J.D.) + M.C.R.P.

Students may pursue the J.D. and M.C.R.P. degrees together. Taken concurrently, the two degrees may be obtained in four years rather than the five years ordinarily required. The program seeks to develop professionals capable of dealing with both the legal and planning aspects of urban and regional development and policy. Coursework is designed to prepare students for a variety of professional roles in which knowledge of planning methodology and process, coupled with the analytical skills and professional expertise of the lawyer, are essential. Graduates join private law firms, consulting firms, and public legal and planning staffs.

To enter this program, students must apply separately to the School of Law and to the Department of City and Regional Planning, and must be accepted independently by both. Students entering the program spend their entire first year in either the planning department or the law school, and students must make this choice at the time of admission. The second year is normally spent full time in the program not selected in the first year. After the first two years, the student has an additional 43 semester credits to complete in the law school and 12 semester credits to complete in planning.

For more information:

- https://law.unc.edu/admissions/
- law_admissions@unc.edu

Business (M.B.A.) + M.C.R.P.

The Kenan–Flagler Business School and the Department of City and Regional Planning offer a dual-degree program leading to the M.B.A. and M.C.R.P. degrees, usually in three years. The program builds management and planning skills that enable graduates to pursue rewarding, flexible, and socially useful careers in the private, nonprofit, or public sectors. Graduates work in real estate and economic development consulting, financial institutions, and entrepreneurial firms. Increasingly, applicants to the business and planning program want to pursue career paths that combine planning and management and seek the flexibility to move between jobs in the public and private sectors.

To enter this program, students must apply separately to both the Department of City and Regional Planning and the Kenan–Flagler Business School, and must be accepted independently by both. Students entering the program spend their entire first year in either the planning department or the business school. The second year is spent full time in the other program. In the third year, students take courses in both business and planning. Sufficient electives can be taken in planning and business so that a curriculum can be tailored to each student's career objectives. Admission to the business school is based on demonstrated potential for responsible leadership, the quality of the student's academic transcripts, and the applicant's score on the Graduate Management Admission Test (GMAT), administered by the Educational Testing Service of Princeton, NJ.

For more information:

- https://www.kenan-flagler.unc.edu/programs/mba/full-time-mba/admissions/
- mba_info@unc.edu

Public Administration (M.P.A.) + M.C.R.P.

This dual-degree program prepares professionals who want the flexibility of moving between planning and management positions in government. The Department of City and Regional Planning and the Public Administration program in the School of Government collaborate to enable students to receive both the M.C.R.P. and the M.P.A. degrees in three years and a summer that includes a professional field experience in public administration.

The intent of the combined program is to ensure that students have two complete and complementary, but distinct, areas of training. The M.P.A. requirements ensure adequate training in public management. The M.C.R.P. requirements ensure adequate training in core planning knowledge and skills, and in an area of planning specialization.

Students must obtain admission to both the M.P.A. and M.C.R.P. programs independently. With prior approval from faculty advisors in both programs, students may then count certain courses toward both degrees. The combined program requires a total of 75 semester credit hours. Students are advised to gain approval from faculty advisors for their specific program of courses during the first semester of residence to ensure that they can meet all requirements of both programs within three years.

For more information:

- https://mpa.unc.edu/process-timeline (https://mpa.unc.edu/process-timeline/)
- Cara Robinson, Director of Admissions, cararob@sog.unc.edu

Public Health (M.P.H.) + M.C.R.P.

The dual degree program between the Department of City and Regional Planning and the Gillings School of Global Public Health (SPH) allows students to connect the public health and urban planning fields through professional training that will encourage greater intersections in professional practice.

To enter these programs, students must apply separately to the Department of City and Regional Planning and the departments in the Gillings School of Global Public Health and must be accepted independently by both. Students entering the program spend their entire first year either in the SPH or the Department of City and Regional Planning. The second year is spent full time in the other program. In the third year, students take both public health and planning courses. Students should be able to complete both programs in three years (instead of four years). At the end of the program students are expected to complete master's projects or other capstone requirements for each department that demonstrate mastery of the two fields and an understanding of the interconnections between the fields.

For more information:

- https://sph.unc.edu/students/admissions/
- Karla Townley-Tilson, Director of the M.P.H. Program, kttilson@unc.edu

Landscape Architecture at North Carolina State University + M.C.R.P.

The dual-degree program in landscape architecture and planning strengthens the design dimension of the planning curriculum, and creates a venue for working closely with the College of Design at North Carolina State University. The Department of Landscape Architecture offers two graduate program tracks leading to the master of landscape architecture (M.L.A.), both of which emphasize creative problem solving and a long-term commitment to responsible design. The curriculum provides the professional skills needed to deal with the human and natural forces that shape the land. The department is especially concerned with the protection, restoration, enhancement, and regeneration of the natural and cultural environments in urban, rural, and wilderness settings.

To enter this program, students apply to each department separately and must gain admission to both. The amount of time required for the M.L.A. will depend on whether the student is pursuing the First Professional Degree track (82 credits) or Advanced Studies track (42 credits). Usually students will be able to reduce the time needed to attain both the M.C.R.P. and the M.L.A. by about one year by taking coursework in each department that counts toward the other department's degree program.

For more information:

- https://design.ncsu.edu/landscape-architecture/academics/mla-admissions (https://design.ncsu.edu/landscape-architecture/academics/mla-admissions/)

City and Regional Planning, Doctoral Program (Ph.D.)

The doctoral program in planning provides training in research methods, planning theory, and areas of specialization that enable graduates to contribute to the development of substantive theory, knowledge, and scholarship in planning; to formulate and evaluate innovative public policy; and to administer research programs in domestic and international contexts.

The Ph.D. degree requires a minimum of 36 credits. Students must fulfill four semesters of residence. In practice, doctoral candidates who hold master's degrees in planning or a related field generally require four semesters of formal coursework in residence before beginning the dissertation. Other candidates may require five or more semesters, depending on their preparation.

Each student develops an individualized course of study to reflect a specific area of interest and career aspirations. Appropriate coursework is determined jointly by the student, program advisor, and the student's program committee. Programs are designed to meet the student's needs and build on prior academic training. Courses must be mutually reinforcing and coherent; must prepare the student for expertise in some body of knowledge, methodology, or problem area; and must provide the student with the appropriate research methods, research design, and knowledge base to do scholarly research. The comprehensive exams, taken at the end of coursework, require knowledge of planning theory, research design, research methods, and the student's specific areas of interest.

Course Requirements

Code	Title	Hours
Core Courses		
PLAN 805	Theory of Planning II	3
PLAN 800	Research Design	3
Electives		**24**
Work with your advisor and program committee to choose any graduate-level courses that contribute to your research development.		
Thesis/Substitute or Dissertation		**6**
PLAN 994	Doctoral Research and Dissertation	
Total Hours		**36**

Milestones

The following list of non-course degree requirements must be completed; view this list of standard milestone definitions (p. 27) for more information.

- Doctoral Committee
- Doctoral Oral Comprehensive Exam
- Doctoral Written Exam
- Prospectus Oral Exam
- Advanced to Candidacy
- Dissertation Defense
- Doctoral Dissertation Approved/Format Accepted
- Residence Credit
- Exit Survey
- Doctoral Intradepartmental Review (Program Conference)
- Doctoral Preparatory Review (Comprehensive Exam Memo)

Recommended Checklist

- Teaching experience: Most Ph.D. students serve as teaching assistants during their time in the program.

Professors

Todd BenDor, Land Use and Environmental Planning and Policy, Spatial Analysis
Nikhil Kaza, Land Use and Environmental Planning and Policy, Energy and Environment, Planning Theory
Noreen McDonald, Transportation Planning
Roberto G. Quercia, Housing Finance, Housing Policy
Yan Song, Geographic Information Systems, Urban Spatial Analysis, Land Use and Site Planning
Meenu Tewari, Microeconomics, International Planning
Dale Whittington (joint appointment with the Gillings School of Global Public Health), Environmental Planning, Public Investment Theory, International Planning

Associate Professors

Danielle Spurlock, Land Use and Environmental Planning, Public Health, Social Justice, and Dispute Resolution
Andrew Whittemore, Land Use and Urban Design

Assistant Professors

Matt Bhagat-Conway, Transportation, Urban Analytics, Computational Methods
Kate Harwood, Economic Development, Housing, Real Estate, Climate Change
Ashley Hernandez, Housing and Community Development, Gentrification, Diversity and Inequality in Cities
Miyuki Hino, Land Use and Environmental Planning, Climate Change, Flooding, Coastal Resilience
Shakirah Hudani, Urbanization in the Global South (joint appointment with AAAD)
Noah Kittner, Land Use and Environmental Planning, Sustainable Energy Systems (joint appointment with ENVR)
Matt Palm, Transportation Planning, Public Transit, Transportation Equity
Renee Tapp, Housing, Real Estate, Rental Markets
Alainna Thomas, Transportation Planning, Transportation Policy, International Transportation

Teaching Assistant Professors

Alanna Coombes, Communication and Planning, Transportation, Automated Vehicles
Meetra Najrabi, Personal Finance

Adjunct Professors

LeAnn Brown, Planning Law
Frank Muraca, Data Visualization
Justin Nolan, Cities and Urban Life
Sarah Nienow, Regional Economic Analysis
Tony Perez, Urban Design, Form-Based Code
Mitchell Silver, Planning Practice, Land Use Planning, Public Space, Community Development
Andrew Stewart, Historic Preservation
Roger Waldon, Land Use Planning, Planning Practice

Research Professors

Ahmed Rachid El-Khattabi, Urban Analytics, Environmental Finance, Water Resources

Associated Faculty

Adam Lovelady, Planning Law
Tyler Mulligan, Development Finance
Judith W. Wegner, Land Use and Local Government Law
Michele Berger, Women's and Gender Studies
Maryann P. Feldman, Public Policy, Innovation, Entrepreneurship, and Economic Growth
Jessie White, School of Government
David J. Hartzell, Real Estate Finance

Professors Emeriti

Richard N.L. Andrews
Raymond J. Burby
F. Stuart Chapin Jr.
David R. Godschalk
Edward J. Kaiser
Emil E. Malizia
William M. Rohe

Please visit the department's website for a current listing (http://planning.unc.edu/academics/) of graduate and undergraduate courses offered.

PLAN

Advanced Undergraduate and Graduate-level Courses

PLAN 420. Community Design and Green Architecture. 3 Credits.
The impact of building on the environment and health will be examined by looking at the major areas of: land use planning, water resource use, energy, materials and indoor environment.

Rules & Requirements
Grading Status: Letter grade.
Same as: ENEC 420.

PLAN 428. Global Cities: Space, Power, and Identity in the Built Environment. 3 Credits.
This course addresses questions of power, politics, and identity in the urban environment, with a focus on the emergence of key selected global cities and the processes that both created them historically and which are currently transforming them locally and globally.

Rules & Requirements
IDEAs in Action Gen Ed: FC-GLOBAL or FC-VALUES, RESEARCH.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.
Same as: GEOG 428.

PLAN 491. Introduction to GIS. 3 Credits.
Stresses the spatial analysis and modeling capabilities of organizing data within a geographic information system. (GISci)

Rules & Requirements
Requisites: Prerequisite, GEOG 370; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Same as: GEOG 491.

PLAN 511. Planning the World: Urban Planning outside the U.S.. 3 Credits.
This course examines the landscape of contemporary planning in cities outside of the United States through an immersive experience abroad. Globally, cities are enormously diverse. But all deal with issues of unequal access to resources including housing and open space, vulnerability to hazards and climate change, questions related to the conservation of the built and natural environment, and daunting mobility challenges.

Rules & Requirements
IDEAs in Action Gen Ed: FC-GLOBAL.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

PLAN 526. Principles of Public Finance for Public Policy and Planning. 1.5 Credits.
Provides the foundation of state and local government finance necessary to understand new developments in the provision of infrastructure for economic development.

Rules & Requirements
Grading Status: Letter grade.

PLAN 539. Understanding and Planning for Freight Flows. 3 Credits.
This course introduces students to the unique characteristics of freight transportation and the impact of urban and regional planning. Freight transport, which is a critical segment of supply chains, is undergoing dramatic changes. The impact of e-Commerce is revealed in the constant re-organization of supply chains and the need for freight transport to respond accordingly.

Rules & Requirements
Grading Status: Letter grade.

PLAN 547. Energy, Transportation, and Land Use. 3 Credits.
This course explores the reciprocal connections between energy (production/conversion, distribution, and use), land use, environment, and transportation. Evaluation of federal, state, and local policies on energy conservation and alternative energy sources are emphasized. Students gain skills to analyze impacts, interdependencies, and uncertainties of various energy conservation measures and production technologies.

Rules & Requirements
Grading Status: Letter grade.
Same as: ENEC 547.

PLAN 548. Sustainable Energy Systems. 3 Credits.
This course will provide an introduction to urgent topics related to energy, sustainability, and the environment. The course material will focus on new technologies, policies, and plans in cities and different governing bodies in the energy system with a focus on developing tools to analyze energy for its sustainability, impact on people, the environment, and the economy.

Rules & Requirements
Grading Status: Letter grade.
Same as: ENEC 548, ENVR 548.

PLAN 550. Evolution of the American City. 3 Credits.
Examines shaping the urban built environments of the United States from the colonial era to present day. Critically examines forces that shaped our cities, and studies the values, ideals, and motivations underlying efforts to plan and direct physical development of American cities.

Rules & Requirements
Grading Status: Letter grade.

PLAN 554. Planning in Practice Speaker Series. 1.5 Credits.
This course is an introduction to the work of Urban Planning in practice. This course is designed to expose students to contemporary issues in planning practice and the variety of ways a career in urban planning can develop. Students will hear from practicing planners throughout this course. Guest speakers will discuss a project they have worked on, or the ways in which their professional career in planning has developed.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 4 total completions.
Grading Status: Letter grade.

PLAN 562. Seminar on The Ethics and Politics of New Urban Analytics. 3 Credits.
While there is no consistent definition of what smart cities are, urban spaces blanketed with ubiquitous and heterogeneous sensor networks that are constantly monitoring the vitality of the city are becoming common place. Such continuous surveillance raises deep political and ethical questions as well as questions about institutional reconfiguration. We will examine urban analytics platforms and interrogate them from a variety of lenses, including privacy, equity, and probity. Previously offered as PLAN 673.

Rules & Requirements
Grading Status: Letter grade.

PLAN 573. We're Everywhere: The Life of LGBTQ+ Spaces in the US. 1.5 Credits.
Since the end of the Second World War, if not before, more and more cities of the United States have come to feature spaces identified by members of LGBTQ communities and their heterosexual, cis-gendered counterparts, as gay, lesbian, or queer. This class introduces students to the social, political, and economic life of LGBTQ spaces in the United States, and asks students to consider their importance and the merits of planning for their improvement and/or conservation.

Rules & Requirements
Grading Status: Letter grade.

PLAN 574. Political Economy of Poverty and Inequality. 3 Credits.
Introduces students to the political economy of poverty alleviation programs. Uses comparative cases to explore what types of projects, tasks, and environments lead to effective and equitable outcomes, and why.

Rules & Requirements
Grading Status: Letter grade.
Same as: GLBL 574.

PLAN 575. Real Estate Development. 3 Credits.
Rigorous examination of real estate development from the entrepreneurial and public perspectives. Emphasis on risk management and the inherent uncertainties of development. The four dimensions of real estate are addressed: economic/market, legal/institutional, physical, and financial. Previously offered as PLAN 375

Rules & Requirements
IDEAs in Action Gen Ed: HI-INTERN.
Grading Status: Letter grade.

PLAN 576. Urbanism in the Global South. 3 Credits.
This course introduces concepts and themes on the development of urbanism in the "Global South". Students engage with current debates over urbanism in the Global South, including looking at urban inequalities in contemporary cities. Through the course, students will be able to compare and critically analyze formations of contemporary urbanism in selected cities in the Global South from a comparative perspective.

Rules & Requirements
IDEAs in Action Gen Ed: FC-GLOBAL.
Grading Status: Letter grade.
Same as: AAAD 492.

PLAN 590. Special Topics Seminar. 1-9 Credits.
Original research, fieldwork, readings, or discussion of selected planning issues under guidance of a member of the faculty.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 9 total credits. 3 total completions.
Grading Status: Letter grade.

PLAN 591. Applied Issues in Geographic Information Systems. 3 Credits.
Applied issues in the use of geographic information systems in terrain analysis, medical geography, biophysical analysis, and population geography.

Rules & Requirements
Requisites: Prerequisite, GEOG 370 or 491.
Grading Status: Letter grade.

PLAN 596. Independent Study. 1-9 Credits.
This course permits full-time undergraduate students enrolled in the Department of City and Regional Planning who wish to pursue independent research or an independent project to do so under the direction of a member of the department faculty.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 9 total credits. 3 total completions.
Grading Status: Letter grade.

PLAN 632. Transportation Planning Applications. 3 Credits.
In this studio style class students will learn the transportation planning process through the application of a corridor study using data from the Triangle Regional Model and an actual study previously conducted. The project will unfold over the course of the semester and will include elements of public engagement, visioning, travel demand analysis, active transportation, and safety and operations. Students will be evaluated based on their ability to synthesize data and information into a compelling story about the corridor and to develop recommendations to support the vision for the corridor.

Rules & Requirements
Grading Status: Letter grade.

PLAN 634. International Transportation Planning. 3 Credits.
This course introduces students to international transportation planning, taking into consideration history, governance, finance, and operations. Transportation planning as a field is highly diverse. How transportation engineers and planners think about moving goods and people differs across the globe. This course sets out to expose you to how the transportation planning practice differs across the world by looking at best practices such as bus rapid transit, people-oriented street design, congestion pricing--to name a few.

Rules & Requirements
Grading Status: Letter grade.

PLAN 635. Energy Modeling for Environment and Public Health. 3 Credits.
Recommended preparation, MATH 231. This course will equip students with an overview of contemporary issues in energy modeling and energy systems analysis, with a focus on environmental and public health impacts of energy systems. Students will gain exposure to a variety of research methodologies, analytical tools, and applications of energy modeling applied to environmental and public health related problems such as climate change, air pollution, and water footprints of energy systems.

Rules & Requirements
Grading Status: Letter grade.
Same as: ENVR 635, ENEC 635.

PLAN 636. Urban Transportation Planning. 3 Credits.
Fundamental characteristics of the urban transportation system as a component of urban structure. Methodologies for the analysis of transportation problems, planning urban transportation, and the evaluation of plans.

Rules & Requirements
IDEAs in Action Gen Ed: HI-GENERAL.
Grading Status: Letter grade.

PLAN 637. Public Transportation. 3 Credits.
Alternative public urban transportation systems including mass transit, innovative transit services, and paratransit, examined from economic, land use, social, technical, and policy perspectives.

Rules & Requirements
IDEAs in Action Gen Ed: FC-QUANT.
Grading Status: Letter grade.

PLAN 638. Pedestrian and Bike Transportation. 3 Credits.
This graduate-level course examines the importance of multimodal transportation planning and provides a comprehensive overview of best planning practices to support increased walking and bicycling.

Rules & Requirements
Grading Status: Letter grade.

PLAN 639. Complete, Safe, Equitable Streets. 3 Credits.
This course will interrogate the role of streets in communities paying particular attention to how streets contribute to mobility, accessibility, economic vibrancy, social cohesion, and safety from crime and traffic danger. We will consider how different people are affected by streets and transport policy.

Rules & Requirements
IDEAs in Action Gen Ed: HI-INTERN.
Grading Status: Letter grade.

PLAN 640. Roadways for a Safer Future. 1 Credits.
Deaths and serious injuries from traffic crashes have been rising steadily on US roadways in recent years. Despite growing investment in safe walking and bicycling facilities, pedestrians and bicyclists bear a disproportionate share of these deaths and injuries. Through a combination of field work, lectures, and facilitated discussions, the Roadways for a Safer Future course introduces students to data collection, analysis, and communication techniques that are critical for understanding and advancing road safety for all.

Rules & Requirements
IDEAs in Action Gen Ed: HI-INTERN.
Grading Status: Letter grade.

PLAN 641. Watershed Planning. 3 Credits.
This course explores the functions of ecosystems, land development activities that impact such functions, and the land use management tools to create strategies for mitigating and restoring environmental damage. Course goals include understanding the ecological context of planning and how ecological principles may inform planning decisions. Prepares planners to engage effectively with biologists, natural resource managers, park managers, and other professionals from the natural sciences.

Rules & Requirements
Grading Status: Letter grade.
Same as: ENEC 641.

PLAN 647. Coastal Management Policy. 3 Credits.
This course is an introduction to coastal management with a particular focus on managing the risks from natural hazards and climate change. It is designed for undergraduate juniors and seniors and graduate students. The focus of this class is on understanding the challenges that coastal communities face, how coasts are currently managed, and different strategies for responding in a rapidly changing world. Previously offered as PLAN 747. Juniors, Seniors, and Graduate students only.

Rules & Requirements
IDEAs in Action Gen Ed: FC-NATSCI.
Grading Status: Letter grade.

PLAN 651. Urban Form and the Design of Cities. 3 Credits.
Lecture course on comparative urbanism and the global evolution of the city form. Examines values and ideals embedded in urban landscapes, seeking to understand how social, economic, and political forces have influenced the development of cities through history.

Rules & Requirements
Grading Status: Letter grade.

PLAN 652. Site Planning and Urban Design. 3 Credits.
This course examines site planning as a means of addressing concerns related to urban development including hydrology, vegetation, land use, urban form, access, regulation, and community priorities. Students conduct an analysis of a site and propose a plan for a hypothetical mixed-use development. Students learn the basics of the 3D modeling software, SketchUp.

Rules & Requirements
Grading Status: Letter grade.

PLAN 655. Planning for Natural Hazards and Climate Risk. 3 Credits.
An introduction to the human dimensions of natural hazards and climate change adaptation. What can we do to reduce losses from floods, fires, and other extreme weather events? How can we minimize the impacts of climate change? The focus of this course is on understanding how governance institutions, policies, politics, from individual to international influences the risks communities face. Previously offered as PLAN 755. Juniors, seniors and graduate students only.

Rules & Requirements
Grading Status: Letter grade.

PLAN 656. Climate Change Impacts and Adaptation. 3 Credits.
An introduction to climate change impacts and adaptation for undergraduate juniors and seniors and graduate students. The focus of this course is understanding how social and environmental systems interact to create risk and damage. This course prepares students to design and implement adaptation strategies for organizations of all types, from businesses to government agencies. Students will learn to integrate information about climate hazards, natural systems, built infrastructure, and socioeconomic systems. Previously offered as PLAN 756. Restricted to juniors, seniors, and graduate students only.

Rules & Requirements
IDEAs in Action Gen Ed: FC-NATSCI.
Grading Status: Letter grade.

PLAN 662. Gender Issues in Planning and Development. 3 Credits.
Permission of the instructor required for undergraduates. Examination of the environmental and health risks, policy institutions, processes, instruments, policy analysis, and major elements of American environmental policy. Lectures and case studies.

Rules & Requirements
Grading Status: Letter grade.
Same as: WGST 662.

PLAN 663. Diversity and Inequality in Cities. 3 Credits.
Permission of instructor needed for undergraduates. Introduces students in planning to issues related to diversity and inequality. Different aspects of diversity (e.g., gender, class, race, ethnicity, sexuality, nationality/citizenship) will be explored. Examines the relationship between diversity and the unequal distribution of resources and life trajectories.

Rules & Requirements
Grading Status: Letter grade.

PLAN 664. Gentrification and the Politics of Development. 3 Credits.
This course critically examines the multifaceted dynamics of gentrification, exploring its historical roots, and its far-reaching implications for cities and communities.

Rules & Requirements
Grading Status: Letter grade.

PLAN 670. Planning Equitable Economies. 3 Credits.
Introduction to basic theories, concepts, and strategies employed to pursue local and regional economic development. Clarifies similarities and distinctions with related planning perspectives including community development, investigates the economic logic behind various development initiatives, and reviews basic principles for critically examining alternative policies and programs. Previously offered as PLAN 770.

Rules & Requirements

IDEAs in Action Gen Ed: FC-POWER.
Grading Status: Letter grade.

PLAN 671. Development Planning Techniques. 3 Credits.
Intermediate and advanced techniques for analyzing the development of local and regional economies. Social accounts, indicator construction, regional input-output models, economic and fiscal impact analysis, labor market analysis, and regional economic forecasting techniques. Previously offered as PLAN 771.

Rules & Requirements
Requisites: Prerequisite, Preparation in basic statistical methods demonstrated through successful completion of PLAN 720, ECON 400, BIOS 600, ENEC 562, STOR 155, PLCY 460 or equivalent.
Grading Status: Letter grade.

PLAN 672. Urban Data Analytics. 3 Credits.
This is a survey course about different techniques used in assembling, managing, analyzing, and predicting using heterogeneous data sets in urban environments. These include point, polygon, raster, vector, text, image, and network data; data sets with high cadence and high spatial resolution; and data sets that are inherently messy and incomplete. The emphasis is on practical urban analytics.

Rules & Requirements
Grading Status: Letter grade.

PLAN 677. Perspectives on Economic Development. 3 Credits.
Fundamental concepts of economic development including growth, trade, product-cycle, flexible specialization, and entrepreneurship theories applied to local contexts. Economic development issues addressed in the North American, South American, European, or South Asian contexts.

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING.
Grading Status: Letter grade.

PLAN 680. The Anatomy and Soul of a Place. 3 Credits.
Explore the intricate layers that define and give meaning to a location. This course comprehensively examines the physical, cultural, historical, and emotional dimensions that contribute to a place's identity. The course will use a variety of topics to serve as a basis for why we plan, who plans, how we plan, and how we implement. Students will engage in critical discussions to deepen their appreciation of how places are more than mere locations -- they are living entities with unique stories and souls.

Rules & Requirements
Grading Status: Letter grade.

PLAN 685. Water and Sanitation Planning and Policy in Less Developed Countries. 3 Credits.
Permission of the instructor. Seminar on policy and planning approaches for providing improved community water and sanitation services in developed countries. Topics include the choice of appropriate technology and level of service, pricing, metering, and connection charges; cost recovery and targeting subsidies to the poor; water venting; community participation in the management and operation of water systems; and rent-seeking behavior in the provision of water supplies.

Rules & Requirements
Grading Status: Letter grade.
Same as: ENVR 685.

PLAN 687. International Development and Social Change. 3 Credits.
Permission of the instructor. Course explores effect of the global economy on national and community development, effect of environmental degradation processes on development, and strategies to guide social change.

Rules & Requirements
Grading Status: Letter grade.

PLAN 691H. Honors Seminar in Urban and Regional Studies. 3 Credits.
Permission of the instructor. An overview of the subject matter and methods of investigation for the study of cities and regions. Presentations of original papers prepared by students.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

Graduate-level Courses

PLAN 701. Research Methods. 1-6 Credits.
Course combines material learned in other courses (theory/philosophy, methods, and their substantive area of interest). Familiarizes students with the skills necessary to conduct research and critically review and understand evaluation reports.

Rules & Requirements
Grading Status: Letter grade.

PLAN 702. Master's Project Proposal Development. 1.5 Credits.
This seminar-based course will provide guidance to master's students as they begin work on their MP proposals. Students will be exposed to a variety of University resources, learn how to design and write independent research, and receive feedback on their ideas and project proposals. The course will combine visits from guest speakers, lectures, and breakout sessions.

Rules & Requirements
Repeat Rules: May be repeated for credit. 3 total credits. 2 total completions.
Grading Status: Letter grade.

PLAN 704. Theory of Planning I. 3 Credits.
The logic of planning as a professional activity. Critical overview of current process theories leading students to develop a personal philosophy applicable to their work as planners.

Rules & Requirements
Grading Status: Letter grade.

PLAN 710. Microeconomics for Planning and Public Policy Analysis. 3 Credits.
Introduction to principles of demand and supply, elasticity, marginal utility opportunity cost, pricing, production decisions, and profit maximization, cost-benefit analysis, financial appraisal, role of government, and market instruments for environmental protection.

Rules & Requirements
Grading Status: Letter grade.

PLAN 714. Urban Spatial Structure. 3 Credits.
This is a survey course that will provide planning graduate students a foundational understanding of what city and regional planning is all about. Over the course of the semester, we will introduce (nearly) all major areas within planning and will introduce the primary theories, models, and methodological approaches that planners use to explain the function and structure of urban areas.

Rules & Requirements
Grading Status: Letter grade.

PLAN 715. Introduction to GIS for Urban Planners. 1.5 Credits.
This class covers a range of basic concepts of GIS and spatial analysis, covering three major processes in GIS application- data collection, data visualization, and data analysis. The course intends to provide broad coverage of GIS topics so that students will feel comfortable with the most basic functions of GIS and spatial analysis and will also be competent in using GIS software.

Rules & Requirements
Grading Status: Letter grade.

PLAN 720. Planning Methods. 3 Credits.
This course introduces a broad variety of methodological approaches, both qualitative and quantitative. The first part of the course will focus on methods broadly applicable to the social sciences, and the latter part of the course will cover planning-specific methods. Permission of the instructor for undergraduates.

Rules & Requirements
Grading Status: Letter grade.

PLAN 721. Advanced Planning Methods. 1.5 Credits.
Permission of the instructor for undergraduates. More in-depth treatment of topics covered in PLAN 720. Particular emphasis on techniques of multiple regression analysis, forecasting, categorical data analysis, and spatial data analysis.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

PLAN 722. Systems Thinking and Modeling for Planners. 1.5 Credits.
This course will introduce systems thinking and system dynamics computer simulation modeling, a computer-aided approach to policy analysis and design. The goal of this course is to enhance knowledge and skills in understanding and analyzing the complex feedback dynamics in social, economic, and environmental problems.

Rules & Requirements
Grading Status: Letter grade.

PLAN 724. Introduction to Law for Planners. 3 Credits.
Governmental institutions, real property, constitutional law, land use law, and environmental law.

Rules & Requirements
Grading Status: Letter grade.

PLAN 725. Development Dispute Resolution. 3 Credits.
Contemporary methods of resolving development disputes through negotiation, bargaining, and mediation. Techniques and skills applicable to solving controversies over planning and implementation of public and private development projects.

Rules & Requirements
Grading Status: Letter grade.

PLAN 727. COMMUNITY ENGAGEMENT. 3 Credits.
This course covers the conceptual foundation of public participation and community engagement, the processes and institutions involved in urban planning and design decision- making, and professional skills necessary to conceptualize and implement high-quality community engagement activities. It is a hands-on, skill-building course with a focus on project design and inclusive presentation.

Rules & Requirements
Grading Status: Letter grade.

PLAN 730. Data Collection Methods. 3 Credits.
Reviews alternative data collection techniques used in surveys, concentrating on the impact these techniques have on the quality of survey data. Topics covered include errors associated with nonresponse, interviewing, and data processing.

Rules & Requirements
Grading Status: Letter grade.
Same as: SOCI 760, POLI 860.

PLAN 731. Questionnaire Design. 3 Credits.
Examines the stages of questionnaire design including developmental interviewing, question writing, question evaluation, pretesting, questionnaire ordering, and formatting. Reviews the literature on questionnaire construction. Provides hands-on experience in developing questionnaires.

Rules & Requirements
Grading Status: Letter grade.
Same as: SOCI 761, POLI 861.

PLAN 735. Community Revitalization Applied. 4.5 Credits.
Students apply their skills in business, planning, or public administration to actual community revitalization projects in North Carolina communities. Projects require an understanding of community development methods, the real estate development process, and public-private partnerships. Students will manage client relationships and learn how their skills contribute to solving community challenges. This course is ideal for first year graduate students.

Rules & Requirements
Repeat Rules: May be repeated for credit. 9 total credits. 2 total completions.
Grading Status: Letter grade.
Same as: PUBA 735.

PLAN 738. Transportation Policy and Planning. 3 Credits.
Examination of active transportation planning and policy questions: land use relationships, modal comparisons, environmental quality, transportation demand management, paratransit planning, the transportation needs of special populations, and international comparisons.

Rules & Requirements
Requisites: Prerequisite, PLAN 636; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

PLAN 739. Transportation Planning Models. 3 Credits.
Permission of the instructor for undergraduates. The transportation planning process; data collection, trip generation, modal choice, trip distribution and assignment. Social, economic, and environmental impacts of transportation. Innovative modeling techniques.

Rules & Requirements
Grading Status: Letter grade.

PLAN 740. Land Use and Environmental Policy. 3 Credits.
History, institutional setting, rationale of state and local land use, and environmental policies. Program and policy frameworks, political and market processes, resource utilization concepts, and contemporary development and resource management.

Rules & Requirements
Grading Status: Letter grade.

PLAN 741. Land Use and Environmental Planning. 3 Credits.
Methods of land use planmaking. Use of GIS and spreadsheets to analyze land suitability and spatial needs. Preparation of land classification plans, land use design plans, and development management programs.

Rules & Requirements
Grading Status: Letter grade.

PLAN 744. Development and Environmental Management. 3 Credits.
Coordination of public powers and private actions to implement development plans and conserve environmental resources. Regulatory, public investment, incentive, and policy instruments used in land use and environmental guidance systems.

Rules & Requirements
Grading Status: Letter grade.

PLAN 745. Development Impact Assessment. 3 Credits.
Methods for data management and predictive analysis of the environmental, transportation, and other infrastructure; fiscal and social impacts of land development projects. Impact mitigation measures are also examined.

Rules & Requirements
Grading Status: Letter grade.

PLAN 752. Project and Site Planning. 3 Credits.
Techniques of site analysis, project programming, and arrangement of structures on the land. Workshop covering design and review of urban development projects within limitations of regulatory standards and market criteria.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

PLAN 754. Natural Hazards Resilience Speaker Series. 1 Credits.
Invited practitioners and scholars will discuss a range of pertinent topics, including research findings and experience in practice tied to disaster management and climate change adaptation. Speakers will include a range of officials, scholars, private sector representatives, media members, politicians, advocates, community leaders, and members of various professional associations.

Rules & Requirements
Grading Status: Letter grade.

PLAN 757. Planning for Historical Preservation. 3 Credits.
Concepts, processes, and policies for historic preservation; its role in the community planning and development process.

Rules & Requirements
Grading Status: Letter grade.

PLAN 760. Real Estate Investment and Affordable Housing. 3 Credits.
Fundamentals and techniques of real estate investment analysis, including cases and computer modeling; applications of the public interest in private investment decisions; tax and other public policies influencing real estate investments; and affordable housing.

Rules & Requirements
Grading Status: Letter grade.

PLAN 761. Housing and Public Policy. 3 Credits.
A theory-based course in housing and market dynamics; the justification for government intervention and the operations of the mortgage market and construction industry. Students develop skills for housing market and policy analysis.

Rules & Requirements
Grading Status: Letter grade.

PLAN 762. Central City Revitalization. 3 Credits.
Analyzes central cities over past twenty years and factors affecting their growth or decline. Analyzes how economic, social, physical conditions of central cities can be improved through large-scale urban-planning efforts.

Rules & Requirements
Grading Status: Letter grade.

PLAN 763. Urban Neighborhood Revitalization. 3 Credits.
Social, political, and economic theory of local communities. Models of neighborhood change. Neighborhood revitalization: theoretical aspects; federal, state, and local programs; role of nonprofit organizations; step-by-step process for revitalizing an area.

Rules & Requirements
Grading Status: Letter grade.

PLAN 764. Community Development & Revitalization Techniques. 4.5 Credits.
Community revitalization requires mastery of community development methods, the real estate development process, and public-private partnerships. Techniques include demographic trend analysis, stakeholder identification, government entitlement review, area and parcel analysis, market research, and pro forma financial analysis.

Rules & Requirements
Repeat Rules: May be repeated for credit. 9 total credits. 2 total completions.
Grading Status: Letter grade.
Same as: PUBA 734.

PLAN 765. Real Estate Development. 3 Credits.
The dynamics of real property development from the developer's perspective covering market research, government relations, site planning, financing, investment analysis, construction and project management, and marketing.

Rules & Requirements
Grading Status: Letter grade.

PLAN 766. Housing Law. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.

PLAN 767. Diversity and Inequalities in Cities. 3 Credits.
Introduces students in planning to issues related to diversity and inequality. Different aspects of diversity (e.g., gender, class, race, ethnicity, sexuality, nationality/citizenship) will be explored. Examines the relationship between diversity and the unequal distribution of resources and life trajectories.

Rules & Requirements
Grading Status: Letter grade.

PLAN 769. Housing & Community Development Planning and Policy. 3 Credits.
This graduate course will explore issues of housing and community development policy and planning issues at the national, state, and local level in the United States. It will provide an overview of the historic and contemporary housing planning and policy issues that have shaped communities and households.

Rules & Requirements
Grading Status: Letter grade.

PLAN 773. Economic Development Seminar. 3 Credits.
Fundamental concepts and theories applied to local economic development including growth, trade, product-cycle, flexible specialization, and entrepreneurship theories. Urban and regional economic development issues addressed in the North American, South American, European, or South Asian contexts.

Rules & Requirements
Grading Status: Letter grade.

PLAN 774. Planning for Jobs. 3 Credits.
This graduate seminar examines the policy and planning implications of changing labor market conditions and their impact on U.S. workers, especially the working poor.

Rules & Requirements
Grading Status: Letter grade.

PLAN 776. Development Finance. 3 Credits.
Community development financial institutions and loan funds for local asset building and wealth creation. Investment analysis to structure and finance local projects. Real estate and business development cases.

Rules & Requirements
Grading Status: Letter grade.

PLAN 781. Water Resources Planning and Policy Analysis. 3 Credits.
Water resources planning and management. Federal and state water resources policies. Analytical skills to identify environmental problems associated with urban water resources development.

Rules & Requirements
Grading Status: Letter grade.
Same as: ENVR 781.

PLAN 785. Public Investment Theory. 3 Credits.
Basic theory, process, and techniques of public investment planning and decision making, involving synthesis of economic, political, and technologic aspects. Theory underlying benefit-cost analysis, adaptation to a descriptive and normative model for planning public projects and programs.

Rules & Requirements
Requisites: Prerequisite, PLAN 710.
Grading Status: Letter grade.
Same as: ENVR 785.

PLAN 786. Environmental Quality Management. 3 Credits.
Planning and analysis of regional environmental system with a focus on management of mass flows that affect the quality of the regional environment.

Rules & Requirements
Grading Status: Letter grade.
Same as: ENVR 786.

PLAN 787. Applied Environmental Finance: How to Pay for Environmental Services. 3 Credits.
How can governments, communities, organizations, and businesses fund environmental services? This applied course reviews the diverse tools and strategies that environmental service providers use to pay for programs. The course will focus on environmental services related to: drinking water, wastewater, storm-water, watershed protection, energy efficiency, renewable energy, sustainability, and wetlands.

Rules & Requirements
Grading Status: Letter grade.
Same as: PUBA 787, ENVR 787.

PLAN 788. Advanced Economic Analysis for Public Policy I. 3 Credits.
This course introduces microeconomic theory using multivariate calculus and constrained optimization. Topics covered include consumer theory, producer theory, market equilibrium, taxes, and market power. Applied public policy examples are incorporated.

Rules & Requirements
Requisites: Prerequisite, PLCY 800.
Grading Status: Letter grade.
Same as: PLCY 888.

PLAN 789. Advanced Economic Analysis for Public Policy II. 3 Credits.
This course provides further applications of economic theory to public policy including risk and uncertainty, information economics, general equilibrium and welfare policy, externalities, public goods and taxation, and game theory.

Rules & Requirements
Requisites: Prerequisite, PLCY 888.
Grading Status: Letter grade.
Same as: PLCY 889.

PLAN 793. Planning Seminar. 1-15 Credits.
Original research, fieldwork, readings, or discussion of selected planning issues under guidance of a member of the faculty.

Rules & Requirements
Repeat Rules: May be repeated for credit. 15 total credits. 15 total completions.
Grading Status: Letter grade.

PLAN 800. Research Design. 3 Credits.
This course provides an introduction to research design methods for planning and applied policy research. The design of a research endeavor is arguably the most important part of the investigation, together with what data is collected, how it is collected, and how the data are analyzed.

Rules & Requirements
Grading Status: Letter grade.

PLAN 801. Design of Policy-Oriented Research. 3 Credits.
Logic of designing research for the analysis of planning problems and the formulation of public policies. Elements of research design, case study, survey research, quasi-experimental designs, and the social experiment are covered.

Rules & Requirements
Grading Status: Letter grade.
Same as: PLCY 801.

PLAN 802. Advanced Seminar in Research Design: Data, Methods, and Evaluation. 3 Credits.
Three main objectives: to deepen students' understanding of important issues and topics in the design of empirical research, to further develop students' ability to critically evaluate research designs and policy-related products, and to aid in developing a research paper, dissertation, or other product.

Rules & Requirements
Grading Status: Letter grade.
Same as: PLCY 802.

PLAN 805. Theory of Planning II. 3 Credits.
Construction of methodologies for evaluating various theories of planning and intensive analysis of the North American planning theory literature. Doctoral-level introduction to the area.

Rules & Requirements
Grading Status: Letter grade.

PLAN 823. Planning Workshop. 3 Credits.
Problem-solving, client-based courses designed to give students experience in applying planning theory and methods to actual problem situations in economic development, housing and community development, real estate, environmental planning, and land use and transportation.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PLAN 890. Special Topics in Planning and Urbanism. 1-3 Credits.
Reading, lectures, and discussions to provide opportunities to develop new concepts and courses in various city and regional planning topics.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PLAN 891. Special Topics in Planning and Urbanism. 3 Credits.
Reading, lectures, and discussions to provide opportunities to develop new concepts and courses in various city and regional planning topics.

Rules & Requirements
Grading Status: Letter grade.

PLAN 896. Independent Study. 1-15 Credits.
This course permits full-time graduate students enrolled in the Department of City and Regional Planning who wish to pursue independent research or an independent project to do so under the direction of a member of the department faculty.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

PLAN 911. Ph.D. Research Seminar. 1-15 Credits.
Original research, fieldwork, readings, or discussion of selected planning issues under guidance of a member of the faculty.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PLAN 992. Master's (Non-Thesis). 3 Credits.
The master's project is original work, involving a substantial degree of independent research and/or analysis. May be a research paper, critical essay, development and evaluation of a program, project, or plan.

Rules & Requirements
Repeat Rules: May be repeated for credit.

PLAN 994. Doctoral Research and Dissertation. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

Contact Information

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Visit Program Website (http://www.planning.unc.edu)

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DEPARTMENT OF CLASSICS (GRAD)

Graduate work in the Department of Classics is primarily designed to meet the needs of students who intend by intensive study and research to specialize in classics. The M.A. prepares especially for teaching at the secondary level; the Ph.D., for research and teaching at the university level.

The University is a contributing member of the American Academy in Rome, the American School of Classical Studies at Athens, the American Schools of Oriental Research, and the American Research Institute in Turkey. There are thus numerous opportunities for study and archaeological fieldwork and research.

The degree of master of arts is offered with a concentration in Greek and Latin or classical archaeology. The degree of doctor of philosophy is offered with a concentration in Greek and Latin, classics with historical emphasis, classical archaeology, or classical and medieval Latin. A minor in related departments may be permitted on application. Students may broaden their program by taking supporting work in related languages or literatures or in art, history, linguistics, philosophy, religious studies, or women's and gender studies.

A detailed description of the requirements for the specific graduate degree programs in the Department of Classics may be found on the department's website (http://classics.unc.edu/graduate-2/).

Following the faculty member's name is a section number that students should use when registering for independent studies, reading, research, and thesis and dissertation courses with that particular professor.

Professors

Emily Baragwanath (3), Greek Historiography
Donald Haggis (40), Aegean Prehistory
James B. Rives (11), Ancient Religion, Roman Literature and Culture
Patricia Rosenmeyer (26), Greek Literature

Associate Professors

Janet Downie (24), Greek Prose, Imperial Greek Literature and Culture
Al Duncan (4), Classics and Humanities
Jennifer Gates-Foster (7), Roman Archaeology, Ptolemaic and Roman Egypt
Peter O'Connell (42), Ancient Rhetoric and Poetics, Greek Literature, and Classical Athens
Hérica Valladares (41), Hellenistic and Roman Art

Assistant Professors

George Baroud (8), Historiography of the Early Imperial Roman Period, Tacitus
Sheira Cohen (31), Archaeology of Iron Age and Archaic Italy
Suzanne Lye (35), Greek Literature
Timothy D. Shea (27), Greek Archaeology, Sculpture, and Topography

Adjunct Professors

Eric Downing, Ancient Literary Theory, Ancient/Modern Relations
Bart Ehrman, Hellenistic Religion, New Testament
Mariska Leunissen, Ancient Greek Philosophy
Pamela Lothspeich, Sanskrit Epic
Jodi Magness, Classical and Near Eastern Archaeology
Hugo Méndez, Early Christianity
Fred Naiden, Greek History
Zlatko Pleše, Ancient Mediterranean Religions
C.D.C. Reeve, Ancient Philosophy, Moral Psychology, History of Philosophy
Jessica Wolfe, Classical Reception in Renaissance Literature

Professors Emeriti

Robert Babcock
Carolyn L. Connor
Jerzy Linderski
Sara Mack
James J. O'Hara
William H. Race
William C. West III
Cecil W. Wooten

Classical Archaeology - CLAR

Advanced Undergraduate and Graduate-level Courses

CLAR 411. Method and Theory in Classical Archaeology. 3 Credits.
Systematic introduction to archaeological field methods, especially survey and excavation techniques, and theoretical approaches using case studies from the Mediterranean, Europe, the Middle East, and North Africa.

Rules & Requirements
Grading Status: Letter grade.

CLAR 461. Greek Sculpture. 3 Credits.
Required preparation, any intermediate art history course or permission of the instructor. A focused study of sculpture in Ancient Greece.

Rules & Requirements
Grading Status: Letter grade.
Same as: ARTH 461.

CLAR 464. Greek Architecture. 3 Credits.
A survey of Greek architectural development from the Dark Ages through the fourth century BCE. Special topics include the beginnings of monumental architecture, the development of the orders, and interpretations of individual architects in terms of style and proportions.

Rules & Requirements
Requisites: Prerequisite, CLAR 244; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Same as: ARTH 464.

CLAR 465. Roman Architecture. 3 Credits.
The development of architecture in the Roman world from the ninth century BCE through the fourth century CE. The course focuses on the development of urbanism and the function, significance, and evolution of the main building types and their geographic distribution.

Rules & Requirements
IDEAs in Action Gen Ed: FC-AESTH or FC-PAST.
Requisites: Prerequisite, CLAR 245, CLAR 247, or CLAR/ARTH 263; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Same as: ARTH 465.

CLAR 474. Roman Sculpture. 3 Credits.
Survey of Roman sculpture (200 BCE-300 CE), including portraiture, state reliefs, funerary monuments, and idealizing sculpture, with emphasis on style, iconography, and historical development of sculpture in its sociocultural, political, and religious contexts.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-PAST, RESEARCH.
Requisites: Prerequisite, CLAR 245, CLAR 247 or CLAR/ARTH 263; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Same as: ARTH 474.

CLAR 475. Provinces and Frontiers of the Roman Empire. 3 Credits.
A survey of the material remains of the frontiers and provinces of the Roman Empire and the variety of responses to Roman imperialism. Issues of language, gender, ethnicity, globalization, and power will be considered.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-KNOWING.
Grading Status: Letter grade.

CLAR 476. Roman Painting. 3 Credits.
Surveys Roman painting from 200 BCE to 300 CE, with emphasis on style, iconography, historical development of painting in its sociocultural, political, and religious contexts. Treats current debates in scholarship.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-PAST.
Requisites: Prerequisite, any CLAR or ARTH course at the 200-level or higher (preferably CLAR 245, CLAR 247, or CLAR/ARTH 263); permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Same as: ARTH 476.

CLAR 480. Egypt after the Pharaohs. 3 Credits.
This course explores the archaeological and historical evidence for life in Egypt between 332 BCE and 324 CE, when the traditions of Pharaonic Egypt came together with the customs and culture of Greek and Roman conquerors to create a society incorporating the traditions of native Egyptian and Mediterranean peoples.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-PAST.
Requisites: Prerequisite, any CLAR course at the 200-level of higher (preferably CLAR 242 or CLAR 247); permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

CLAR 482. Art and Archaeology of Achaemenid Persia. 3 Credits.
This course will examine the history and material culture of the ancient state known as the Achaemenid Persian Empire through ancient texts and archaeological sources. Beginning in the sixth century BCE, this ancient superpower ruled a vast and culturally diverse empire that stretched from Northern Libya to central Asia. Through an examination of key sites, objects, and texts we will explore the history and diversity of this multicultural empire.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-POWER.
Grading Status: Letter grade.
Same as: ARTH 482.

CLAR 491. The Archaeology of Early Greece (1200-500 BCE). 3 Credits.
This course surveys the development of Greek material culture from 1200 to 500 BCE, exploring the origins of Greek art, architecture, cities, and sanctuaries in the Aegean and eastern Mediterranean.

Rules & Requirements
Requisites: Prerequisite, any CLAR course at the 200-level or higher (preferably CLAR 243 or CLAR 244); permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

CLAR 492. Archaeology of Greek Sanctuaries. 3 Credits.
This course is a survey of the archaeology and architecture of ancient Greek sanctuaries from the Late Bronze Age to the Roman period. We will discuss the development of temple architecture, ritual assemblages, and votive practices.

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING or FC-PAST.
Requisites: Prerequisite, Any CLAR/CLAS course at the 200-level or higher.
Grading Status: Letter grade.

CLAR 512. Ancient Synagogues. 3 Credits.
This is a course on ancient synagogues in Palestine and the Diaspora from the Second Temple period to the seventh century CE.

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL or FC-PAST, RESEARCH.
Grading Status: Letter grade.
Same as: RELI 512, JWST 512.

CLAR 650. Field School in Classical Archaeology. 6 Credits.
This course is an introduction to archaeological field methods and excavation techniques, through participation in archaeological excavation.

Rules & Requirements
Grading Status: Letter grade.

Graduate-level Courses

CLAR 781. The Archaeology of the Bronze Age Aegean. 3 Credits.
Study of the material culture of the Aegean Neolithic and Bronze Age, focusing on the origins and development of Minoan and Mycenaean culture groups and palatial societies.

Rules & Requirements
Grading Status: Letter grade.

CLAR 782. The Archaeology of Early Iron Age Greece and the Aegean. 3 Credits.
The study of the material culture of the Early Iron Age Aegean from the collapse of the Bronze Age palaces to the earliest Greek city states (ca. 1200-700 B.C.).

Rules & Requirements
Grading Status: Letter grade.

CLAR 790. Field Practicum in Archaeology. 3 Credits.
Seminar in archaeological excavation techniques to be conducted in the field. Previous excavation experience is expected.

Rules & Requirements
Grading Status: Letter grade.

CLAR 794. Greek Topography. 3 Credits.
Study of chief archaeological sites of Greece and of existing buildings and monuments. Attention to the problems of excavation and the role of the sites in Greek history.

Rules & Requirements
Grading Status: Letter grade.
Same as: ARTH 794.

CLAR 798. Roman Topography. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.
Same as: ARTH 798.

CLAR 812. Diaspora Judaism. 3 Credits.
Permission of the instructor for undergraduates. Seminar examines the evidence for the ancient Jewish communities of Egypt, Rome, Asia Minor, and Mesopotamia.

Rules & Requirements
Grading Status: Letter grade.
Same as: RELI 812.

CLAR 841. Special Reading in Archaeology. 3 Credits.
With permission of the department, this course may be repeated for credit.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

CLAR 910. Seminar in Archaeology. 3 Credits.
Topics vary from year to year.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

CLAR 993. Master's Research and Thesis. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

CLAR 994. Doctoral Research and Dissertation. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

Classics in English/Classical Civilization - CLAS

Courses Not Requiring a Reading Knowledge of Greek and Latin

The following courses in classical literature and civilization are especially designed to supply the necessary foundation for those who, without a reading knowledge of the ancient languages, wish a broader culture or plan to specialize in modern literature, history, art, etc. When approved these courses may count as part of the major requirements in other departments. The courses may also be taken to satisfy the requirements of a minor in literature. See also English and Comparative Literature.

Advanced Undergraduate and Graduate-level Courses

CLAS 409. Greek and Roman Historians. 3 Credits.
The study in English translation of selections from Herodotus, Thucydides, Livy, Tacitus, and others, with consideration of their literary qualities and their readability as historians. Honors version available.

Rules & Requirements
IDEAs in Action Gen Ed: FC-KNOWING or FC-PAST.
Grading Status: Letter grade.

CLAS 415. Roman Law. 3 Credits.
This course combines a survey of the main areas of Roman law in their social and historical context with the close study of primary texts illustrating Roman law in practice, especially case studies from the writings of Roman legal experts; particular attention is given to the logic and application of ancient Roman legal thought and to its social and ethical implications. Honors version available.

Rules & Requirements
IDEAs in Action Gen Ed: FC-PAST or FC-VALUES.
Grading Status: Letter grade.

CLAS 511. Grammar as a Guide to Effective Writing. 1 Credits.
A systematic review of English grammar for students of Latin and Greek, combined with practical exercises in prose style and effective writing.

Rules & Requirements
Requisites: Prerequisite, GREK 204 or LATN 204.
Grading Status: Letter grade.

CLAS 691H. Honors Course. 3 Credits.
Honors course for departmental majors in classical archaeology, classical civilization, Greek, and Latin.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

CLAS 692H. Honors Course. 3 Credits.
Honors course for departmental majors in classical archaeology, classical civilization, Greek, and Latin.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

Graduate-level Courses

CLAS 710. Proseminar in Pedagogy. 1 Credits.
This course is an introduction to the issues, skills, and resources relevant to the successful teaching of undergraduate courses in Classics Departments at post-secondary educational institutions.

Rules & Requirements
Grading Status: Letter grade.

CLAS 711. Proseminar in Professional Development. 1 Credits.
This course is an introduction to skills and practices that play a key part in the professional lives of classicists and classical archaeologists working in post-secondary educational institutions.

Rules & Requirements
Grading Status: Letter grade.

CLAS 720. Methods, Resources, and Perspectives in Classical Scholarship for Graduate Students. 3 Credits.
This course is a requirement for the M.A. in Classics. The goal of the course is to provide pre-M.A. students with an overview of the field and of its development; and to provide them with resources and methods that will help them to conduct their own research in an informed fashion. Graduate students only.

Rules & Requirements
Grading Status: Letter grade.

CLAS 747. Approaches to Women in Antiquity. 3 Credits.
Intensive interdisciplinary introduction to women in antiquity, using literary, historical, and visual materials. Open to senior classics majors by permission of the instructor.

Rules & Requirements
Grading Status: Letter grade.

CLAS 901. Seminars in Classical Studies. 3 Credits.
Graduate research seminar. Topics vary from year to year. Graduate standing.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

Greek - GREK

Advanced Undergraduate and Graduate-level Courses

GREK 409. Greek New Testament. 3 Credits.
Rules & Requirements
Requisites: Prerequisite, GREK 222; Permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Same as: RELI 409.
Global Language: Level 6.

Graduate-level Courses

NOTE: One or two Greek courses numbered in the 700s are offered each semester.

GREK 710. Greek Prose Composition. 3 Credits.
Review of Attic grammar and idiom, exercises in composition, introduction to stylistics.

Rules & Requirements
Grading Status: Letter grade.

GREK 711. Readings in Early Greek Poetry. 3 Credits.
Selections from Homer, Hesiod, and/or the lyric and elegiac poets of the Archaic period, focusing on works on the M.A. and Ph.D. reading lists.

Rules & Requirements
Grading Status: Letter grade.

GREK 712. Readings in Greek Literature of the Fifth Century. 3 Credits.
Selections from tragedy, Old Comedy, and/or historiography, focusing on works on the M.A. and Ph.D. reading lists.

Rules & Requirements
Grading Status: Letter grade.

GREK 713. Readings in Greek Literature of the Fourth Century. 3 Credits.
Selections from philosophy, oratory, historiography, and/or New Comedy, focusing on works on the M.A. and Ph.D. reading lists.

Rules & Requirements
Grading Status: Letter grade.

GREK 722. Greek Epigraphy. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.

GREK 744. An Introduction To Greek Law. 3 Credits.
This class has three goals: familiarizing students with Greek language, introducing them to concepts of Greek law by reading secondary literature, and directing them to current debates in the field.

Rules & Requirements
Grading Status: Letter grade.

GREK 750. Homer. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.

GREK 753. Greek Lyric Poetry. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.

GREK 755. Greek Tragedy. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.

GREK 757. Sophocles. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.

GREK 759. Greek Comedy. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.

GREK 761. Greek Philosophical Literature. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.

GREK 763. Greek Historical Literature. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.

GREK 765. Thucydides. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.

GREK 767. Greek Rhetoric and Oratory. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.

GREK 769. Demosthenes. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.

GREK 771. Hellenistic Poetry. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.

GREK 775. Later Greek Prose. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.

GREK 841. Special Reading. 3 Credits.
With permission of the department, this course may be repeated for credit.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

GREK 901. Greek Seminars. 3 Credits.
Topics vary from year to year.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

GREK 993. Master's Research and Thesis. 3 Credits.
Fall and spring. Staff.

Rules & Requirements
Repeat Rules: May be repeated for credit.

GREK 994. Doctoral Research and Dissertation. 3 Credits.
Fall and spring. Staff.

Rules & Requirements
Repeat Rules: May be repeated for credit.

Latin - LATN

Advanced Undergraduate and Graduate-level Courses

LATN 601. Accelerated Elementary Latin. 3 Credits.
An intensive introduction to Latin grammar and syntax, equivalent to LATN 101 and 102. Students may not receive credit for the following course pairs: LATN 101 and 601; LATN 102 and 601.

Rules & Requirements
Grading Status: Letter grade.

LATN 602. Accelerated Intermediate Latin. 3 Credits.
An intensive review of Latin grammar, along with vocabulary building and the development of reading and translation skills, equivalent to LATN 203 and 204. Students may not receive credit for the following course pairs: LATN 203 and 602; LATN 204 and 602.

Rules & Requirements
Grading Status: Letter grade.

Graduate-level Courses

NOTE: One or two Latin courses numbered in the 700s are offered each semester.

LATN 710. Introductory Latin Composition. 3 Credits.
Review of Latin grammar and idiom, exercises in composition, introduction to stylistics.

Rules & Requirements
Grading Status: Letter grade.

LATN 711. Readings in Latin Literature of the Republic. 3 Credits.
Selections from Roman comedy, Lucretius, Catullus, Cicero, Caesar, and/or Sallust, focusing on works on the M.A. and Ph.D. reading lists.

Rules & Requirements
Grading Status: Letter grade.

LATN 712. Readings in Latin Literature of the Augustan Age. 3 Credits.
Selections from Vergil, Horace, the elegiac poets, Ovid, and/or Livy, focusing on works on the M.A. and Ph.D. reading lists.

Rules & Requirements
Grading Status: Letter grade.

LATN 713. Readings in Latin Literature of the Empire. 3 Credits.
Selections from writers from the Neronian period through Apuleius, focusing on works on the M.A. and Ph.D. reading lists.

Rules & Requirements
Grading Status: Letter grade.

LATN 714. Readings in Latin Literature of Later Antiquity. 3 Credits.
Selections from writers from the early 3rd to the early 5th century, including Tertullian, the Passio Perpetuae, Augustine's Confessions, the Scriptores Historiae Augustae, and Ammianus Marcellinus, focusing on works on the M.A. and Ph.D. reading lists.

Rules & Requirements
Grading Status: Letter grade.

LATN 722. Latin Epigraphy. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.

LATN 723. Latin Paleography. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.

LATN 724. Latin Textual Criticism. 3 Credits.
Introduction to textual criticism of Latin texts. Addresses transmission, principles of editing, constructing and interpreting an apparatus criticus. Practical editorial experience working from original manuscripts, microfilms, and digital reproductions.

Rules & Requirements
Grading Status: Letter grade.

LATN 725. Latin Composition and Prose Styles. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.

LATN 726. History of Latin. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.

LATN 730. Readings in Medieval Latin Literature. 3 Credits.
Survey of medieval Latin literature from its beginnings through the high Middle Ages.

Rules & Requirements
Grading Status: Letter grade.

LATN 753. Fragments of Early Latin Poetry. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.

LATN 762. Roman Historical Literature. 3 Credits.
Study of Sallust, Caesar, Suetonius, or the minor historians of the empire.

Rules & Requirements
Grading Status: Letter grade.

LATN 764. Roman Dramatic Literature. 3 Credits.
Study of the comedies of Plautus and Terence or the tragedies of Seneca.

Rules & Requirements
Grading Status: Letter grade.

LATN 765. Roman Lyric and Elegiac Poetry. 3 Credits.
Study of the forms of lyric and elegiac poetry with special attention to Catullus, Horace, Tibullus, or Propertius.

Rules & Requirements
Grading Status: Letter grade.

LATN 766. Roman Satire. 3 Credits.
Study of the development of satiric forms with special attention to Horace or Juvenal.

Rules & Requirements
Grading Status: Letter grade.

LATN 767. Ovid and Literary Theory. 3 Credits.
Introduction to literary theory through a study of Ovid and scholarly approaches to his poetry.

Rules & Requirements
Grading Status: Letter grade.

LATN 768. Horace and Catallus. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.

LATN 770. Topics in Medieval Latin Literature. 3 Credits.
Reading in selected medieval Latin prose and verse authors.

Rules & Requirements
Grading Status: Letter grade.

LATN 771. Cicero: Political Career. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.

LATN 772. Cicero: Literary Career. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.

LATN 773. Lucretius. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.

LATN 774. Vergil. 3 Credits.
We will read the AENEID in Latin, with special attention to the War in Italy. We'll concern ourselves with a variety of topics: style and language; allusion, intertextuality, and the poem's relationship to various texts or traditions; the blending or clash or voices and genres, and possible ways of responding to perceived inconsistencies; and critical debates about the poem's attitude toward the strengths & weaknesses of the Roman people.

Rules & Requirements
Grading Status: Letter grade.

LATN 775. Livy. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.

LATN 776. Ovid. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.

LATN 780. The Roman Novel. 3 Credits.
Selections from Petronius and/or Apuleius and related texts.

Rules & Requirements
Grading Status: Letter grade.

LATN 784. Tacitus. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.

LATN 841. Special Reading. 3 Credits.
With permission of the department, this course may be repeated for credit.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

LATN 901. Latin Seminars. 3 Credits.
Topics vary from year to year.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

LATN 993. Master's Research and Thesis. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

LATN 994. Doctoral Research and Dissertation. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

Contact Information

Department of Classics
Visit Program Website (http://www.classics.unc.edu)

Chair
Donald C. Haggis
dchaggis@email.unc.edu

Director of Graduate Studies
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Director of Archaeology Program
Hérica Valladares
hericav@email.unc.edu

CLINICAL MENTAL HEALTH COUNSELING (GRAD)

Division of Clinical Rehabilitation and Mental Health Counseling

Master of Science in Clinical Mental Health Counseling

The Division of Clinical Rehabilitation and Mental Health Counseling (CRMH) in the Department of Health Sciences offers a unique and challenging 60+ credit master of science degree in clinical mental health counseling with concentrations in working with persons with developmental and psychiatric disabilities.

Graduates are eligible for the National Certified Counselor (NCC) credential, and additionally meet educational requirements for licensure in a majority of states.

Mission of the Division

The mission of the Division of Clinical Rehabilitation and Mental Health Counseling (the "division") is to serve the people of North Carolina by educating clinical rehabilitation counselors ("CRCs") and clinical mental health counselors ("CMHCs") with the knowledge and expertise to serve the state's citizens with mental, behavioral, or neurodevelopmental disorders with an emphasis on those citizens who have psychiatric and/or developmental disabilities. The mission is based on the fundamental belief in the dignity and worth of all people, and in the rights of people with disabilities to live self-determined lives in inclusive communities of their choice. The CRCs and CMHCs will use the counseling relationship and their skills to work collaboratively with individuals to: (i) maximize functional capacity, productive and independent living skills, and quality of life; (ii) provide access to culturally sensitive and evidence-based counseling practices; and (iii) manage personalized services to support the unique needs and preferences of each individual, their family, and community. Fundamental to this effort is a focus on the whole person—their psychological, vocational, spiritual, and physical aspects—as well as family, social, work, and community relationships. Furthermore, the division is dedicated to inclusive practices, appreciating diversity, reducing health disparities, and serving marginalized and under-represented communities.

The division seeks to educate CRCs and CMHCs who possess the knowledge, skills and personal and professional qualities required to forge new models of community practice that address the diverse needs of individuals with disabilities now and in the future. In carrying out this mission, the faculty of the division has the obligation to acquire, discover, preserve, synthesize, and transmit knowledge, to serve as models of professional leadership, and to create a culture of educational excellence that will nurture students' intellectual and ethical development. Students have the responsibility to fully engage in an educational process of research, free inquiry, and personal responsibility and to become foremost practitioners, scholars, researchers, and leaders in the professions of clinical rehabilitation counseling and mental health counseling.

The University of North Carolina at Chapel Hill is recognized, nationally and internationally, as a leading center of scholarship, research, and creative work with a mission to serve the people of North Carolina and the nation. The mission of the division is to contribute actively and substantively to this tradition.

Mission of the M.S. in Clinical Mental Health Counseling Program

The Clinical Mental Health Counseling master's program at UNC prepares students with knowledge, clinical practice expertise, cultural humility, knowledge, dispositions, and skills to work with diverse individuals with a broad range of mental health issues. Graduates are prepared to be successful in careers in mental health treatment, human services, education, research, private practice, government, military, and business and industry. The curriculum provides extensive training in principles of mental health counseling, the nature and etiology of mental health and behavioral disorders, culturally responsive counseling approaches, and evidence-based practices. Graduates achieve mastery in clinical mental health counseling and are competent in clinical practice, individual, professional, and systemic advocacy, leadership, consultation, and collaboration to assess client's mental health needs, goals, resources, and barriers. Graduates of the UNC program will be proficient in developing and implementing mental health treatment and prevention programs and in providing consultation, leadership, and advocacy to individuals across the age spectrum and to groups, organizations, and communities. Counselors trained at UNC will successfully fulfill their professional counselor roles in practice, research, leadership, and community advocacy in the clinical mental health counseling specialty area.

Objectives of the M.S. in Clinical Mental Health Counseling Program

Graduates of the CMHC Master's Program will:

1. Effectively apply established counseling theories and evidence-based practices in clinical mental health counseling within a community-inclusion model.
2. Accurately assess the mental health counseling needs of individuals with mental health and behavioral disorders, including substance use and provide mental health services within the continuum of care (e.g., inpatient, partial-hospitalization, outpatient).
3. Acquire specific knowledge and skills to address the mental health counseling needs of individuals, including the impact of biological and neurological mechanisms, and the impact of crisis and trauma on mental health.
4. Work collaboratively with professionals, family members, community providers, and policy makers to achieve optimal treatment outcomes for individuals with mental health and behavioral disorders.
5. Demonstrate multicultural and social justice counseling competencies, including cultural humility practices.
6. Demonstrate strong clinical skills in mental health counseling (biopsychosocial case conceptualization, diagnosis, and treatment planning and delivery).
7. Engage in a process of lifelong learning, collaboration, collegiality, and ethical relationships as part of ongoing professional development for CMHCs.
8. Have the necessary leadership, business and management, and public policy skills to assume leadership roles in CMHC; and
9. Promote and support consumer empowerment and self-advocacy of individuals with a broad range of mental health issues.

M.S. in Clinical Mental Health Counseling Program

Requirements for Admission:

- A bachelor's degree transcript from an accredited college or university
- A pre-admission interview with the program faculty
- Eligibility to meet student requirements to participate in clinical training
- Minimum TOEFL or IELTS scores as required by the UNC Graduate School for any non-native English-speaking applicant.
- Three letters of reference
- Personal statement/statement of purpose
- Responses to five supplemental questions

We complete a holistic file review and consider academic success, experiences especially those relevant to working with people with disabilities, and how well a candidate's career interests and goals align with our program curriculum and clinical training opportunities.

Clinical Mental Health Counseling, Master's Program (M.S.)

The Clinical Mental Health Counseling program is a 60+ hour credit master's degree. Graduates are eligible for the National Certified Counselor (NCC) credential. In addition, graduates meet educational requirements for licensure in a majority of states.

A mental health counselor (CMHC) is a professional who is qualified to provide professional counseling services, involving the application of psychotherapy, human development, learning theory, group dynamics, and the etiology of mental illness and dysfunctional behavior to individuals, couples, families, and groups for the purpose of treating a broad range of mental health issues and promoting optimal mental health.

Course Requirements

Code	Title	Hours
Core Courses		
CRMH 700	Foundations of Clinical Rehabilitation and Mental Health Counseling	3
CRMH 702	Theories of Counseling	3
CRMH 705	Ethical, Legal, and Professional Issues in Counseling	3
CRMH 706	Tests and Measurement in Clinical Rehabilitation & Mental Health Counseling	3
CRMH 708	Career Counseling and Development: Applications for Clinical Mental Health Counselors	3
CRMH 710	A Multicultural Perspective of Developmental Counseling through the Lifespan	3
CRMH 712	Fundamentals of CRMH Diagnosis & Practice with People with Psychiatric & Developmental Disabilities	3
CRMH 714	Principles of Group Counseling in Clinical Rehabilitation & Mental Health Counseling	3
CRMH 718	Co-Occurring Disorders in Clinical Rehabilitation & Mental Health Counseling	3
CRMH 800	Clinical Rehabilitation & Mental Health Counseling Research & Program Evaluations	3
CRMH 802	Practicum in Clinical Rehabilitation & Mental Health Counseling	5
CRMH 806	Applied Counseling Skills in Clinical Rehabilitation & Mental Health Counseling	5
CRMH 810	Internship in Clinical Rehabilitation & Mental Health Counseling	10
CRMH 816	Evidence-Based Counseling Practices with People with Developmental Disabilities	1.5
or CRMH 818	Evidence-Based Counseling Practices with People with Psychiatric Disabilities	
CRMH 822	Marriage, Couple & Family Counseling in Clinical Rehabilitation & Mental Health Counseling	3
Thesis/Substitute or Dissertation [1]		
CRMH 992	Master's (Non-Thesis)	3
or CRMH 993	Master's Research and Thesis	
Minimum Hours		**57.5**

[1] Students must take a minimum of 3 credit hours of 992 OR 993; students must be registered for either 992 or 993 until completion of the degree and will likely take more than the minimum 3 credit hours. Please contact your program coordinator for additional clarification.

Milestones

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 27) for more information.

- Master's Committee
- Master's Written Exam/Approved Exam Substitute
- Thesis Substitute
- Thesis/Substitute Defense
- Approved Master's Thesis
- Residence Credit
- Master's Exit Survey
- Master's Prospectus Meeting

Graduate-level Courses

CRMH 700. Foundations of Clinical Rehabilitation and Mental Health Counseling. 3 Credits.
This course will cover topics germane to the history and philosophy of rehabilitation. Students will obtain an overview of the field, its consumers, and methods of service delivery.

Rules & Requirements
Grading Status: Letter grade.

CRMH 701. Foundations of Clinical Rehabilitation Counseling. 3 Credits.
The purpose of this course is to introduce the field of professional counseling, with a concentration on clinical rehabilitation counseling. The course focuses on clinical rehabilitation counseling history, philosophy, values, legislation, policy, and practice (models and methods of service delivery). The course also provides students with foundational knowledge on the counseling profession, the professional identity of the counselor, ethical and legal standards, competencies and functions, and counseling practice in various settings.

Rules & Requirements
Grading Status: Letter grade.

CRMH 702. Theories of Counseling. 3 Credits.
An introduction to the traditional theories of individual and family counseling. Emphasis on application of theories to persons with disabilities, ethics, and multicultural awareness.

Rules & Requirements
Grading Status: Letter grade.

CRMH 704. Medical & Psychosocial Aspects of Disabilities. 3 Credits.
Functional, psychological, vocational, familial, social, and sexual aspects of medical disabilities. Includes the human body system and medical terminology. Focus on assistive technology and functional capacity.

Rules & Requirements
Grading Status: Letter grade.

CRMH 705. Ethical, Legal, and Professional Issues in Counseling. 3 Credits.
This course will assist students' development of foundational knowledge of ethical, legal, and professional issues within the counseling profession, with a specific emphasis on clinical mental health counseling and clinical rehabilitation counseling practice. Students will learn to recognize ethical dilemmas and practice resolving them using ethical decision making models.

Rules & Requirements
Grading Status: Letter grade.

CRMH 706. Tests and Measurement in Clinical Rehabilitation & Mental Health Counseling. 3 Credits.
This course is an overview of the selection, administration, and interpretation of major assessment tools. Emphasis is on persons with mental illness or developmental disabilities.

Rules & Requirements
Grading Status: Letter grade.

CRMH 708. Career Counseling and Development: Applications for Clinical Mental Health Counselors. 3 Credits.
This course will cover career development and counseling with emphasis on community integration in employment and leisure pursuits. This course will examine the world of work, life career development, career decision- making theories, the process and techniques of career counseling and the interrelationship between career and life balance issues and mental health.

Rules & Requirements
Grading Status: Letter grade.

CRMH 709. Career Counseling and Development: Applications for Clinical Rehabilitation Counselors. 3 Credits.
This course will cover career development and counseling with emphasis on community integration in employment and leisure pursuits. This course will examine the world of work, life career development, career decision- making theories, the process and techniques of career counseling and the interrelationship between career and life balance issues and mental health.

Rules & Requirements
Grading Status: Letter grade.

CRMH 710. A Multicultural Perspective of Developmental Counseling through the Lifespan. 3 Credits.
A multicultural perspective of developmental theories and counseling through the lifespan will be covered with overall themes of positive development, resiliency, and healthy life transitions of persons with disabilities.

Rules & Requirements
Grading Status: Letter grade.

CRMH 712. Fundamentals of CRMH Diagnosis & Practice with People with Psychiatric & Developmental Disabilities. 3 Credits.
An introduction to diagnosing clients with mental illness and developmental disabilities. Focus is on best practice treatment and the vocational, social, and familial implications of living with a DSM disorder.

Rules & Requirements
Requisites: Prerequisites, CRMH 700 and 702.
Grading Status: Letter grade.

CRMH 714. Principles of Group Counseling in Clinical Rehabilitation & Mental Health Counseling. 3 Credits.
Strategies and techniques in developing and implementing groups in counseling. Attention to group counseling with persons with disabilities, specifically those with mental illness and developmental disabilities.

Rules & Requirements
Grading Status: Letter grade.

CRMH 716. Case Management, Rehabilitation Services, and Resources. 3 Credits.
Emphasis on leadership in all aspects of person-centered service coordination to include transdisciplinary and multi-agency effectiveness, knowledge of community organization and resources, service and support options.

Rules & Requirements
Grading Status: Letter grade.

CRMH 718. Co-Occurring Disorders in Clinical Rehabilitation & Mental Health Counseling. 3 Credits.
Introduces co-occurence of psychiatric conditions, substance abuse, and/or developmental disabilities, examining history including traditional recovery models, contradictory practices, bio-physiological effects, and shift from separate to parallel to integrated treatment approaches.

Rules & Requirements
Grading Status: Letter grade.

CRMH 800. Clinical Rehabilitation & Mental Health Counseling Research & Program Evaluations. 3 Credits.
Research methods, evidence-based practice, and ethical, legal, and cultural issues related to research and evaluation. Covers basic statistics, library research for rehabilitation-related information, proposal development, and grant writing.

Rules & Requirements
Requisites: Prerequisites, CRMH 700 and 702.
Grading Status: Letter grade.

CRMH 802. Practicum in Clinical Rehabilitation & Mental Health Counseling. 5 Credits.
Practicum in Clinical Rehabilitation & Mental Health Counseling Provides students the opportunity to apply knowledge and counseling skills in a clinical setting and move to a more advanced level of counseling skill. Includes clinical training in assessing lethality, identifying and reporting abuse, counselor safety, Rehabilitation Counseling ethics, and HIPAA review.

Rules & Requirements
Grading Status: Letter grade.

CRMH 806. Applied Counseling Skills in Clinical Rehabilitation & Mental Health Counseling. 5 Credits.
Designed to teach foundational counseling skills that will enable students to begin counseling. Focus on counseling individuals with mental illness and developmental disabilities. Includes ethics and multicultural awareness.

Rules & Requirements
Grading Status: Letter grade.

CRMH 810. Internship in Clinical Rehabilitation & Mental Health Counseling. 10 Credits.
Direct experience with clients/patients in either PD or DD settings.

Rules & Requirements
Grading Status: Letter grade.

CRMH 811. Internship in Clinical Rehabilitation Counseling. 10 Credits.
The internship program is a 600 hour (40 hours per week) clinical experience designed to provide students with opportunities to apply theoretical and clinical skills in a clinical rehabilitation counseling setting.

Rules & Requirements
Grading Status: Letter grade.

CRMH 814. Intro to CRMH Counseling with People with Developmental Disabilities and Psychiatric Disabilities. 3 Credits.
Historical perspective, description, diagnoses, classification, etiology, patterns of functioning, current best practices with focus on RCP service delivery and community support; day-in-the-life component included.

Rules & Requirements
Grading Status: Letter grade.

CRMH 816. Evidence-Based Counseling Practices with People with Developmental Disabilities. 1.5 Credits.
Prepares students for counseling practice with persons with developmental disabilities, focusing on achievement of a participatory, person-centered, independent, productive community life.

Rules & Requirements
Grading Status: Letter grade.

CRMH 818. Evidence-Based Counseling Practices with People with Psychiatric Disabilities. 1.5 Credits.
Prepare students for counseling practice with persons with psychiatric conditions; covers evidence-based practice and coordination strategies focusing or, support of recovery, achievement of healthy, independent, and productive community life.

Rules & Requirements
Grading Status: Letter grade.

CRMH 822. Marriage, Couple & Family Counseling in Clinical Rehabilitation & Mental Health Counseling. 3 Credits.
Provides a general framework for understanding individuals with disabilities and chronic illnesses in the context of the family and related systems.

Rules & Requirements
Requisites: Prerequisite, CRMH 702.
Grading Status: Letter grade.

CRMH 890. Special Topics in Clinical Rehabilitation & Mental Health Counseling. 1-3 Credits.
Faculty-mentored independent study to pursue specific interests and topics.

Rules & Requirements
Grading Status: Letter grade.

CRMH 992. Master's (Non-Thesis). 3 Credits.
Individual work by a student (supervised by faculty) to explore an area of interest in a research paper, program development, or a professional project.

Rules & Requirements
Repeat Rules: May be repeated for credit.

CRMH 993. Master's Research and Thesis. 3 Credits.
Individual research supervised by a faculty member in a special field of study.

Rules & Requirements
Repeat Rules: May be repeated for credit.

Professor

Eileen J. Burker, Ph.D., C.R.C., Division Director, Quality of Life Associated with Heart and Lung Transplantation and Left Ventricular Device (LVAD) Surgery; Mental Health Aspects of Cardiac and Pulmonary Rehabilitation; Vocational Functioning in Individuals with Chronic Medical Conditions; Counseling Skills Development in Graduate Students in Counseling; Ethics in Counseling

Associate Professors

Dara Chan, Sc.D., C.R.C., Assistant Division Director, Admissions Chair, Career Counseling and Development for Adults with Developmental Disabilities; Community Participation and Integration of Adults with Autism Spectrum Disorder; Global Positioning Systems (GPS) and Geographic Information Systems (GIS) Measures; Spatial Analysis of Environmental Accessibility and Resource Use
Eniko Rak, Ph.D., C.R.C, Program Coordinator-Clinical Rehabilitation Counseling Program, Life Transitions and Quality of Life Outcomes; Impact of Health Literacy and Self-Management Competencies on Well-Being; Professional Identity Development in Students in Counseling Programs

Assistant Professor

Blaise Morrison, Ph.D., C.R.C, P.C., Psychosocial Adjustment Counseling for Families Affected by Chronic Illness and Disability; Family Therapy Interventions for Adjusting to Life After TBI, Stroke, and SCI; Caregiver/CarePartner QOL; Interdisciplinary Psychosocial Research; Community Participation and Employment Outcomes in Individuals with Acquired Brain Injury; Psychiatric Rehabilitation; Family Functioning After Disability Onset

Clinical Assistant Professors

Damaris Bates, PhD, LCMHCA, NCC, The Application of Critical Theories such as Disability Justice and Intersectionality to Enhance Counseling Praxis and Training Experiences; Foster Culturally and Disability-Affirming Spaces for QTBIPOC Clients with Disabilities; Cultivating a Social Justice-Based Counseling Training Curriculum

Terra Rose, Psy.D., L.P., LCMHC-QS, Assistant Practicum and Internship Coordinator, Supervision and Counseling Skill Development of Graduate Students; Evidence-Based Treatments for Individuals with Psychiatric Disabilities and Substance Use Disorders, Quality of Life Associated with Organ Failure and Transplant

Judy Schmidt, Ed.D., C.R.C., LCMHCA, Practicum and Internship Coordinator & Program Coordinator-Clinical Mental Health Counseling Program, Trauma Informed Care, Counselor Development and Training, Interprofessional Education and Practice in Counselor Training

Adjunct Faculty

Scarlett Anthony, Ph.D., Quality of Life Associated with Heart and Lung Transplantation and Left Ventricular (LVAD) Surgery; Behavioral and Lifestyle Risk Factors Among Cardiology Patients

W. Leigh Atherton, Ph.D., LCMHCS, LCAS, CRC, CCS, Substance Abuse, Dual Diagnosis and Motivational Interviewing

Briaane Tomaszweski, PhD, Specializing in Examining and Promoting Functional Outcomes for Individuals with Developmental Disabilities

Katie Tompkins, **M.S., C.R.C., LCMHC,** Co-Occurring Intellectual and Developmental Disabilities and Psychiatric Disabilities, Autism Spectrum Disorder, Trauma-Focused Cognitive Behavioral Therapy

Contact Information

Clinical Rehabilitation and Mental Health Counseling
Visit Program Website (https://www.med.unc.edu/healthsciences/crmh/)

Director
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eburker@med.unc.edu

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CLINICAL REHABILITATION COUNSELING (GRAD)

Division of Clinical Rehabilitation and Mental Health Counseling

Master of Science in Clinical Rehabilitation Counseling

The Division of Clinical Rehabilitation and Mental Health Counseling (CRMH) in the Department of Health Sciences offers a unique and challenging 60+ credit master of science degree in clinical rehabilitation counseling.

Graduates are eligible for national professional certification to become a Certified Rehabilitation Counselor (CRC) or National Certified Counselor (NCC) and meet educational requirements for state license to practice in many states. Rehabilitation counselors use client centered approaches to prepare individuals with disabilities in attaining optimal function, including psychological, social, and vocational function in the context of their personal goals, abilities, and perception of quality of life. Rehabilitation counseling involves eliminating attitudinal and environmental barriers through use of counseling technology, advocacy, and support.

Mission of the Division

The mission of the Division of Clinical Rehabilitation and Mental Health Counseling (the "division") is to serve the people of North Carolina by educating clinical rehabilitation counselors ("CRCs") and clinical mental health counselors ("CMHCs") with the knowledge and expertise to serve the state's citizens with mental, behavioral, or neurodevelopmental disorders with an emphasis on those citizens who have psychiatric and/or developmental disabilities. The mission is based on the fundamental belief in the dignity and worth of all people, and in the rights of people with disabilities to live self-determined lives in inclusive communities of their choice. The CRCs and CMHCs will use the counseling relationship and their skills to work collaboratively with individuals to: (i) maximize functional capacity, productive and independent living skills, and quality of life; (ii) provide access to culturally sensitive and evidence-based counseling practices; and (iii) manage personalized services to support the unique needs and preferences of each individual, their family, and community. Fundamental to this effort is a focus on the whole person—their psychological, vocational, spiritual, and physical aspects—as well as family, social, work, and community relationships. Furthermore, the division is dedicated to inclusive practices, appreciating diversity, reducing health disparities, and serving marginalized and under-represented communities.

The division seeks to educate CRCs and CMHCs who possess the knowledge, skills and personal and professional qualities required to forge new models of community practice that address the diverse needs of individuals with disabilities now and in the future. In carrying out this mission, the faculty of the division has the obligation to acquire, discover, preserve, synthesize, and transmit knowledge, to serve as models of professional leadership, and to create a culture of educational excellence that will nurture students' intellectual and ethical development. Students have the responsibility to fully engage in an educational process of research, free inquiry, and personal responsibility and to become foremost practitioners, scholars, researchers, and leaders in the professions of clinical rehabilitation counseling and mental health counseling.

The University of North Carolina at Chapel Hill is recognized, nationally and internationally, as a leading center of scholarship, research, and creative work with a mission to serve the people of North Carolina and the nation. The mission of the division is to contribute actively and substantively to this tradition.

Mission of the M.S. in Clinical Rehabilitation Counseling Program

The mission of the Clinical Rehabilitation Counseling master's program at UNC is to develop professional counselors who have the knowledge, skills, and dispositions necessary to provide state-of-the-art services to culturally diverse individuals with physical, psychiatric, developmental, and/or intellectual disabilities in diverse settings (e.g., public vocational rehabilitation, high school and/or college, disability management, private-for-profit rehabilitation, assisted living facilities). The curriculum provides extensive training in evidence-based practices and service delivery models aimed at optimizing consumers' functioning in major life areas (i.e., physical, vocational, educational, developmental, psychosocial, independent living). Counselors trained at UNC will serve individuals of transition age and beyond through developmentally appropriate and culturally responsive work. Graduates combine clinical rehabilitation counseling expertise with skills in individual, professional and systemic advocacy, leadership, consultation, and collaboration to assess consumer needs, goals, potential, resources, and barriers to empower and fully promote consumers' quality of life, community inclusion, and personal fulfillment.

Objectives of the M.S. in Clinical Rehabilitation Counseling Program

Graduates of the CRC Master's Program will:

1. Learn and effectively apply current best practices in rehabilitation counseling within the continuum of care using a community-inclusion model.
2. Accurately assess the rehabilitation counseling needs of people with disabilities and work in partnership with consumers, families, and affiliated agencies to provide the most appropriate rehabilitation services and supports needed.
3. Acquire specific knowledge and skills to address the counseling and case management needs of people with disabilities with an emphasis on strategies and techniques for serving people with psychiatric and/or developmental disabilities; this includes assessing the impact of crisis and trauma, the impacts of biological and neurological mechanisms, and the effects of co-occurring disabilities.
4. Demonstrate multicultural and social justice counseling competencies, including cultural humility practices.
5. Work collaboratively with professionals as members of an interdisciplinary treatment team, family members, community providers, employers, and agency policy and decision makers to achieve optimal rehabilitation outcomes for people with disabilities.
6. Engage in a process of lifelong learning, collaboration, collegiality, and ethical relationships as part of ongoing professional development as CRCs.
7. Have the necessary leadership, business and management, and public policy skills to assume leadership roles; and
8. Promote and support consumer empowerment and self-advocacy, with a focus on inclusion and removal of environmental, attitudinal, and individual barriers for individuals with disabilities.

MS in Clinical Rehabilitation Counseling Program

Requirements for Admission:

- A bachelor's degree transcript from an accredited college or university
- A pre-admission interview with the program faculty
- Eligibility to meet student requirements to participate in clinical training
- Minimum TOEFL or IELTS scores as required by the UNC Graduate School for any non-native English-speaking applicant.
- Three letters of reference
- Personal statement/statement of purpose
- Responses to five supplemental questions

We complete a holistic file review and consider academic success, experiences especially those relevant to working with people with disabilities, and how well a candidate's career interests and goals align with our program curriculum and clinical training opportunities.

Clinical Rehabilitation Counseling, Master's Program (M.S.)

The Clinical Rehabilitation Counseling program is a 60+ credit master's degree.

Graduates are eligible for national professional certification to become a Certified Rehabilitation Counselor (CRC) or National Certified Counselor (NCC) and meet educational requirements for state license to practice counseling in many states (Licensed Clinical Mental Health Counselor or LCMHC in North Carolina).

Our clinical rehabilitation counseling program is ranked #13 in the country, according to U.S. News & World Report.

A clinical rehabilitation counselor is a highly trained professional who uses client-centered approaches to prepare individuals with disabilities to attain optimal function, including psychological, social, and vocational function in the context of their personal goals, abilities, and perception of quality of life. Rehabilitation counseling involves eliminating attitudinal and environmental barriers through the use of counseling technology, advocacy, and support.

Course Requirements

Code	Title	Hours
Core Courses		
CRMH 701	Foundations of Clinical Rehabilitation Counseling	3
CRMH 702	Theories of Counseling	3
CRMH 704	Medical & Psychosocial Aspects of Disabilities	3
CRMH 705	Ethical, Legal, and Professional Issues in Counseling	3
CRMH 706	Tests and Measurement in Clinical Rehabilitation & Mental Health Counseling	3
CRMH 709	Career Counseling and Development: Applications for Clinical Rehabilitation Counselors	3
CRMH 710	A Multicultural Perspective of Developmental Counseling through the Lifespan	3
CRMH 712	Fundamentals of CRMH Diagnosis & Practice with People with Psychiatric & Developmental Disabilities	3
CRMH 714	Principles of Group Counseling in Clinical Rehabilitation & Mental Health Counseling	3
CRMH 718	Co-Occurring Disorders in Clinical Rehabilitation & Mental Health Counseling	3
CRMH 800	Clinical Rehabilitation & Mental Health Counseling Research & Program Evaluations	3
CRMH 802	Practicum in Clinical Rehabilitation & Mental Health Counseling	5
CRMH 806	Applied Counseling Skills in Clinical Rehabilitation & Mental Health Counseling	5
CRMH 811	Internship in Clinical Rehabilitation Counseling	10
CRMH 816	Evidence-Based Counseling Practices with People with Developmental Disabilities	1.5
or CRMH 818	Evidence-Based Counseling Practices with People with Psychiatric Disabilities	
CRMH 822	Marriage, Couple & Family Counseling in Clinical Rehabilitation & Mental Health Counseling	3
Thesis/Substitute or Dissertation [1]		
CRMH 992	Master's (Non-Thesis)	3
or CRMH 993	Master's Research and Thesis	
Minimum Hours		**60.5**

[1] Students must take a minimum of 3 credit hours of 992 OR 993; students must be registered for either 992 or 993 until completion of the degree and will likely take more than the minimum 3 credit hours. Please contact your program coordinator for additional clarification.

Milestones

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 27) for more information.

- Master's Committee
- Master's Oral Exam/Approved Exam Substitute
- Thesis Substitute
- Thesis/Substitute Defense
- Approved Master's Thesis
- Residence Credit
- Master's Exit Survey
- Master's Prospectus Meeting

Graduate-level Courses

CRMH 700. Foundations of Clinical Rehabilitation and Mental Health Counseling. 3 Credits.
This course will cover topics germane to the history and philosophy of rehabilitation. Students will obtain an overview of the field, its consumers, and methods of service delivery.

Rules & Requirements
Grading Status: Letter grade.

CRMH 701. Foundations of Clinical Rehabilitation Counseling. 3 Credits.
The purpose of this course is to introduce the field of professional counseling, with a concentration on clinical rehabilitation counseling. The course focuses on clinical rehabilitation counseling history, philosophy, values, legislation, policy, and practice (models and methods of service delivery). The course also provides students with foundational knowledge on the counseling profession, the professional identity of the counselor, ethical and legal standards, competencies and functions, and counseling practice in various settings.

Rules & Requirements
Grading Status: Letter grade.

CRMH 702. Theories of Counseling. 3 Credits.
An introduction to the traditional theories of individual and family counseling. Emphasis on application of theories to persons with disabilities, ethics, and multicultural awareness.

Rules & Requirements
Grading Status: Letter grade.

CRMH 704. Medical & Psychosocial Aspects of Disabilities. 3 Credits.
Functional, psychological, vocational, familial, social, and sexual aspects of medical disabilities. Includes the human body system and medical terminology. Focus on assistive technology and functional capacity.

Rules & Requirements
Grading Status: Letter grade.

CRMH 705. Ethical, Legal, and Professional Issues in Counseling. 3 Credits.
This course will assist students' development of foundational knowledge of ethical, legal, and professional issues within the counseling profession, with a specific emphasis on clinical mental health counseling and clinical rehabilitation counseling practice. Students will learn to recognize ethical dilemmas and practice resolving them using ethical decision making models.

Rules & Requirements
Grading Status: Letter grade.

CRMH 706. Tests and Measurement in Clinical Rehabilitation & Mental Health Counseling. 3 Credits.
This course is an overview of the selection, administration, and interpretation of major assessment tools. Emphasis is on persons with mental illness or developmental disabilities.

Rules & Requirements
Grading Status: Letter grade.

CRMH 708. Career Counseling and Development: Applications for Clinical Mental Health Counselors. 3 Credits.
This course will cover career development and counseling with emphasis on community integration in employment and leisure pursuits. This course will examine the world of work, life career development, career decision- making theories, the process and techniques of career counseling and the interrelationship between career and life balance issues and mental health.

Rules & Requirements
Grading Status: Letter grade.

CRMH 709. Career Counseling and Development: Applications for Clinical Rehabilitation Counselors. 3 Credits.
This course will cover career development and counseling with emphasis on community integration in employment and leisure pursuits. This course will examine the world of work, life career development, career decision- making theories, the process and techniques of career counseling and the interrelationship between career and life balance issues and mental health.

Rules & Requirements
Grading Status: Letter grade.

CRMH 710. A Multicultural Perspective of Developmental Counseling through the Lifespan. 3 Credits.
A multicultural perspective of developmental theories and counseling through the lifespan will be covered with overall themes of positive development, resiliency, and healthy life transitions of persons with disabilities.

Rules & Requirements
Grading Status: Letter grade.

CRMH 712. Fundamentals of CRMH Diagnosis & Practice with People with Psychiatric & Developmental Disabilities. 3 Credits.
An introduction to diagnosing clients with mental illness and developmental disabilities. Focus is on best practice treatment and the vocational, social, and familial implications of living with a DSM disorder.

Rules & Requirements
Requisites: Prerequisites, CRMH 700 and 702.
Grading Status: Letter grade.

CRMH 714. Principles of Group Counseling in Clinical Rehabilitation & Mental Health Counseling. 3 Credits.
Strategies and techniques in developing and implementing groups in counseling. Attention to group counseling with persons with disabilities, specifically those with mental illness and developmental disabilities.

Rules & Requirements
Grading Status: Letter grade.

CRMH 716. Case Management, Rehabilitation Services, and Resources. 3 Credits.
Emphasis on leadership in all aspects of person-centered service coordination to include transdisciplinary and multi-agency effectiveness, knowledge of community organization and resources, service and support options.

Rules & Requirements
Grading Status: Letter grade.

CRMH 718. Co-Occurring Disorders in Clinical Rehabilitation & Mental Health Counseling. 3 Credits.
Introduces co-occurence of psychiatric conditions, substance abuse, and/or developmental disabilities, examining history including traditional recovery models, contradictory practices, bio-physiological effects, and shift from separate to parallel to integrated treatment approaches.

Rules & Requirements
Grading Status: Letter grade.

CRMH 800. Clinical Rehabilitation & Mental Health Counseling Research & Program Evaluations. 3 Credits.
Research methods, evidence-based practice, and ethical, legal, and cultural issues related to research and evaluation. Covers basic statistics, library research for rehabilitation-related information, proposal development, and grant writing.

Rules & Requirements
Requisites: Prerequisites, CRMH 700 and 702.
Grading Status: Letter grade.

CRMH 802. Practicum in Clinical Rehabilitation & Mental Health Counseling. 5 Credits.
Practicum in Clinical Rehabilitation & Mental Health Counseling Provides students the opportunity to apply knowledge and counseling skills in a clinical setting and move to a more advanced level of counseling skill. Includes clinical training in assessing lethality, identifying and reporting abuse, counselor safety, Rehabilitation Counseling ethics, and HIPAA review.

Rules & Requirements
Grading Status: Letter grade.

CRMH 806. Applied Counseling Skills in Clinical Rehabilitation & Mental Health Counseling. 5 Credits.
Designed to teach foundational counseling skills that will enable students to begin counseling. Focus on counseling individuals with mental illness and developmental disabilities. Includes ethics and multicultural awareness.

Rules & Requirements
Grading Status: Letter grade.

CRMH 810. Internship in Clinical Rehabilitation & Mental Health Counseling. 10 Credits.
Direct experience with clients/patients in either PD or DD settings.

Rules & Requirements
Grading Status: Letter grade.

CRMH 811. Internship in Clinical Rehabilitation Counseling. 10 Credits.
The internship program is a 600 hour (40 hours per week) clinical experience designed to provide students with opportunities to apply theoretical and clinical skills in a clinical rehabilitation counseling setting.

Rules & Requirements
Grading Status: Letter grade.

CRMH 814. Intro to CRMH Counseling with People with Developmental Disabilities and Psychiatric Disabilities. 3 Credits.
Historical perspective, description, diagnoses, classification, etiology, patterns of functioning, current best practices with focus on RCP service delivery and community support; day-in-the-life component included.

Rules & Requirements
Grading Status: Letter grade.

CRMH 816. Evidence-Based Counseling Practices with People with Developmental Disabilities. 1.5 Credits.
Prepares students for counseling practice with persons with developmental disabilities, focusing on achievement of a participatory, person-centered, independent, productive community life.

Rules & Requirements
Grading Status: Letter grade.

CRMH 818. Evidence-Based Counseling Practices with People with Psychiatric Disabilities. 1.5 Credits.
Prepare students for counseling practice with persons with psychiatric conditions; covers evidence-based practice and coordination strategies focusing or, support of recovery, achievement of healthy, independent, and productive community life.

Rules & Requirements
Grading Status: Letter grade.

CRMH 822. Marriage, Couple & Family Counseling in Clinical Rehabilitation & Mental Health Counseling. 3 Credits.
Provides a general framework for understanding individuals with disabilities and chronic illnesses in the context of the family and related systems.

Rules & Requirements
Requisites: Prerequisite, CRMH 702.
Grading Status: Letter grade.

CRMH 890. Special Topics in Clinical Rehabilitation & Mental Health Counseling. 1-3 Credits.
Faculty-mentored independent study to pursue specific interests and topics.

Rules & Requirements
Grading Status: Letter grade.

CRMH 992. Master's (Non-Thesis). 3 Credits.
Individual work by a student (supervised by faculty) to explore an area of interest in a research paper, program development, or a professional project.

Rules & Requirements
Repeat Rules: May be repeated for credit.

CRMH 993. Master's Research and Thesis. 3 Credits.
Individual research supervised by a faculty member in a special field of study.

Rules & Requirements
Repeat Rules: May be repeated for credit.

Professor

Eileen J. Burker, Ph.D., C.R.C., Division Director, Quality of Life Associated with Heart and Lung Transplantation and Left Ventricular Device (LVAD) Surgery; Mental Health Aspects of Cardiac and Pulmonary Rehabilitation; Vocational Functioning in Individuals with Chronic Medical Conditions; Counseling Skills Development in Graduate Students in Counseling; Ethics in Counseling

Associate Professors

Dara Chan, Sc.D., C.R.C., Assistant Division Director, Admissions Chair, Career Counseling and Development for Adults with Developmental Disabilities; Community Participation and Integration of Adults with Autism Spectrum Disorder; Global Positioning Systems (GPS) and Geographic Information Systems (GIS) Measures; Spatial Analysis of Environmental Accessibility and Resource Use
Eniko Rak, Ph.D., C.R.C, Program Coordinator-Clinical Rehabilitation Counseling Program, Life Transitions and Quality of Life Outcomes; Impact of Health Literacy and Self-Management Competencies on Well-Being; Professional Identity Development in Students in Counseling Programs

Assistant Professor

Blaise Morrison, Ph.D., C.R.C, P.C., Psychosocial Adjustment Counseling for Families Affected by Chronic Illness and Disability; Family Therapy Interventions for Adjusting to Life After TBI, Stroke, and SCI; Caregiver/CarePartner QOL; Interdisciplinary Psychosocial Research; Community Participation and Employment Outcomes in Individuals with Acquired Brain Injury; Psychiatric Rehabilitation; Family Functioning After Disability Onset

Clinical Assistant Professors

Damaris Bates, PhD, LCMHCA, NCC, The Application of Critical Theories such as Disability Justice and Intersectionality to Enhance Counseling Praxis and Training Experiences; Foster Culturally and Disability-Affirming Spaces for QTBIPOC Clients with Disabilities; Cultivating a Social Justice-Based Counseling Training Curriculum

Terra Rose, Psy.D., L.P., LCMHC-QS, Assistant Practicum and Internship Coordinator, Supervision and Counseling Skill Development of Graduate Students; Evidence-Based Treatments for Individuals with Psychiatric Disabilities and Substance Use Disorders, Quality of Life Associated with Organ Failure and Transplant

Judy Schmidt, Ed.D., C.R.C., LCMHCA, Practicum and Internship Coordinator & Program Coordinator-Clinical Mental Health Counseling Program, Trauma Informed Care, Counselor Development and Training, Interprofessional Education and Practice in Counselor Training

Adjunct Faculty

Scarlett Anthony, Ph.D., Quality of Life Associated with Heart and Lung Transplantation and Left Ventricular (LVAD) Surgery; Behavioral and Lifestyle Risk Factors Among Cardiology Patients

W. Leigh Atherton, Ph.D., LCMHCS, LCAS, CRC, CCS, Substance Abuse, Dual Diagnosis and Motivational Interviewing

Brianne Tomaszweski, PhD, Specializing in Examining and Promoting Functional Outcomes for Individuals with Developmental Disabilities

Katie Tompkins, **M.S., C.R.C., LCMHC,** Co-Occurring Intellectual and Developmental Disabilities and Psychiatric Disabilities, Autism Spectrum Disorder, Trauma-Focused Cognitive Behavioral Therapy

Contact Information

Clinical Rehabilitation and Mental Health Counseling
Visit Program Website (https://www.med.unc.edu/healthsciences/crmh/)

Director
Eileen J. Burker
eburker@med.unc.edu

Admissions Chair
Dara Chan
dara_chan@med.unc.edu

DEPARTMENT OF COMMUNICATION (GRAD)

Ph.D in Communication

The Ph.D. at UNC is an inquiry-based degree, offering students the opportunity to build unique programs of study around their respective research interests. The program requires the student to define a program of study organized by an evolving research question or research problem. The program ensures foundational study in subdisciplines of communication studies, including rhetoric, performance studies, media arts, media and technology studies, interpersonal and organizational communication, and cultural studies. The program encourages interdisciplinary work across these areas and across disciplines to enhance one's ability to address the research question or problem, while at the same time helping to professionalize students for various employment opportunities. The research question or problem and subordinate lines of inquiry that help to define it serve as the basis for selecting coursework, for developing integrative reading lists for the doctoral comprehensive exam, and for completing a major, original research project in the form of a doctoral dissertation. All students — whether admitted with a baccalaureate degree or a master's degree — are admitted to the doctoral program; the department does not offer a terminal M.A. degree.

Doctoral students (admitted with M.A. or equivalent) complete a minimum of 45 hours of coursework, including 4 core courses (12 hours), 10 research courses (30 hours), 2 professional development courses (COMM 702 and COMM 907 for 6 hours). Dissertation research hours are additional. Students admitted with a baccalaureate degree or equivalent take additional coursework and complete a qualifying exam in their third semester. A student may also wish to pursue formal or independent minors or certifications, language competence related to research, and/or additional courses as needed or desired. All students must demonstrate methodological competence through completion of one professional development course (COMM 702 for 3.0 credit hours).

To learn more, please visit the Communication website (https://comm.unc.edu/graduate-studies/).

Professors

Renee Alexander Craft, Critical/Performance Ethnography, Performance of Literature, Critical Studies in Race and Gender
Torin Monahan, Technology Studies, Surveillance Studies
Patricia S. Parker, Organizational Communication and Culture, Critical Studies in Gender, Race, Organizational Leadership
Tony Perucci, Performance, Performance and Media, Performance Activism, Cultural Studies
Joyce Rudinsky, Media Studies, Electronic and Interactive Media
Avi Santo, Media and Technology Studies, Consumer Culture, Materials Culture, Children's Media and Play, Fan Studies

Associate Professors

Sarah Dempsey, Organizational Communication, Organizing in Global Contexts
Julia Haslett, Media and Production, Documentary Filmmaking
Christian O. Lundberg, Rhetoric and Public Culture, Cultural Studies, Critical Theory, Religion
Steven K. May, Organizational Communication, Cultural Studies
Michael Palm, Media Studies, History of Technologies
Kumi Silva, Gender, Race and Identity, Transnational and Postcolonial Studies
Michael S. Waltman, Interpersonal Communication, Social Cognition, Hate Studies

Assistant Professors

Kelsey Brod, New Media Theory, Creative and Critical Practice
Lisa Calvente,Performance Studies, Cultural Studies
E. Chebrolu, Rhetoric of Race, Rhetoric and Social Media
David Dooling, Organizational Communication, Queer Studies, Gender Studies
Aaron Shapiro, Media and Technology Studies

Professors Emeriti

V. William Balthrop
Carole Blair
Robbie Cox
Paul Ferguson
Lawrence Grossberg
Ken Hillis
Gorham Kindem
Beverly Long
Dennis Mumby
Della Pollock
Lawrence B. Rosenfeld
David Sontag
Francesca Talenti
Julia T. Wood

NOTE: Courses are offered on demand except as otherwise noted.

COMM

Advanced Undergraduate and Graduate-level Courses

COMM 700. Introduction to Modern Philosophy and Contemporary Theory. 3 Credits.
Considers the emergence of modern and contemporary social and cultural theory. Surveys major paradigms of modern and contemporary philosophy.

Rules & Requirements
Grading Status: Letter grade.

COMM 701. Introduction to Research and Theory in Communication Studies II. 3 Credits.
Admission to graduate program or permission of the department. Considers theory and philosophy in the study of communication. Surveys major paradigms of contemporary social/cultural theory (and their roots in modern philosophy) in relation to examples of communication research and practice. Second of two semesters.

Rules & Requirements
Grading Status: Letter grade.

COMM 702. Teaching in Communication Studies. 3 Credits.
Communication studies graduate students only. An introduction to teaching at the university level for new teaching assistants and graduate students hoping to have teaching-related responsibilities in communication studies. It is designed to encourage us to have intellectually rigorous and personally meaningful conversations about our teaching.

Rules & Requirements
Grading Status: Letter grade.

COMM 703. Communication and the Political. 3 Credits.
This course is designed for students to start thinking, in a historical and foundational way, about 'the political' as defined by formative thinkers from contrasting philosophical perspectives, as well as from necessarily different social positions within the field of power.

Rules & Requirements
Grading Status: Letter grade.

COMM 704. Communication and Discourse. 3 Credits.
This course focuses on the various ways that the problem of discourse is rendered inside and outside of Communication Studies. It examines the various modes at our disposal for thinking about discourse as a field of articulation: for example in theories of representation, mediation, and meaning making.

Rules & Requirements
Grading Status: Letter grade.

COMM 705. Communication and the Social. 3 Credits.
This class theorizes the Social by drawing on resources inside and outside of communication studies, thinking through the implicit and explicit investments that communication scholarship has in the concept of the social.

Rules & Requirements
Grading Status: Letter grade.

COMM 711. Performance as Method. 3 Credits.
Course introduces graduate students to performance practice as a way of knowing, an aesthetic expression, a form of pedagogy, a method of research, and a means of presenting findings. Students will develop and perform original work that creatively engages various research contexts.

Rules & Requirements
Grading Status: Letter grade.

COMM 712. The Body and Performance. 3 Credits.
This course will explore through performance the various ways the human body is 'marked' or signified in culture.

Rules & Requirements
Grading Status: Letter grade.

COMM 713. Primary Readings in Performance Studies. 3 Credits.
Course introduces graduate students to key texts that have informed the emergence of Performance Studies as a mode of inquiry into cultural, social, aesthetic, and political practices.

Rules & Requirements
Grading Status: Letter grade.

COMM 723. Research in Organizational Communication. 3 Credits.
Explores theoretical, methodological, and practical issues encountered in ethnographic, case study, and field research on communication phenomena in organizations.

Rules & Requirements
Grading Status: Letter grade.

COMM 724. Feminism, Science, and Communication. 3 Credits.
Critical examination of key feminist arguments about science and communication scholarship as conventionally defined; exploration of alternative goals, assumptions, and practices for research consistent with feminist theories and methodologies.

Rules & Requirements
Grading Status: Letter grade.

COMM 725. Interpretive Studies in Organizational Communication. 3 Credits.
Focuses on the theory and practice of interpretive organizational communication research, including organizational phenomena such as culture, metaphor, symbolism, ritual, and narrative.

Rules & Requirements
Requisites: Prerequisite, COMM 525; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

COMM 726. Critical Studies in Organizational Communication. 3 Credits.
Focuses on the theory and practice of critical organizational communication research, including organizational phenomena such as power, discourse, and culture.

Rules & Requirements
Requisites: Prerequisite, COMM 525; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

COMM 750. Cultural Studies. 3 Credits.
Graduate standing required. Introduction for graduate students to the current literature and critical perspectives in the areas of media and cultural studies.

Rules & Requirements
Grading Status: Letter grade.

COMM 752. Media and Social Change. 3 Credits.
This seminar inquires into the range of relationships between media and social life, with a particular emphasis on media's role in movements for social, economic, and/or cultural transformation.

Rules & Requirements
Grading Status: Letter grade.

COMM 753. Theories of the Audience/Public. 3 Credits.
This course offers a sustained analysis of the ways in which the media, audience, and/or public have been variously conceptualized historically, in critical theory.

Rules & Requirements
Grading Status: Letter grade.

COMM 754. Political, Institutional, and Economic Contexts of Media and Culture. 3 Credits.
A detailed analysis of the relationship between government, policy making, corporate and business interests, and various theoretical approaches to their impact on media and culture. Fall.

Rules & Requirements
Requisites: Prerequisite, COMM 700.
Grading Status: Letter grade.

COMM 755. History of Cultural Studies. 3 Credits.
This class introduces cultural studies through its British 'origins,' especially but not only the work of the Centre for Contemporary Cultural Studies and the Open University.

Rules & Requirements
Grading Status: Letter grade.

COMM 756. National, International, Transnational, and Global Movie/Media History. 3 Credits.
Explores the economic, social, ideological, technological, and aesthetic development of film and television as international, transnational, transcultural, and global entities, questioning the viability of the concept of national cinema/media in the 21st century.

Rules & Requirements
Grading Status: Letter grade.

COMM 758. Studies in Film and Television. 3 Credits.
Graduate introduction to the study of film, television, and video. This course traces the theoretical and methodological development of media studies.

Rules & Requirements
Grading Status: Letter grade.

COMM 761. Adaptation Seminar. 3 Credits.
This seminar recognizes and applies narrative theory in understanding texts, lives, and cultural practice broadly.

Rules & Requirements
Grading Status: Letter grade.

COMM 769. Topics in Performance Studies. 3 Credits.
Second-year graduate students and/or permission of the instructor. Special problems in performance studies.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

COMM 770. History of Rhetoric I. 3 Credits.
A critical survey of the history of rhetoric, focusing on Classical theories of rhetoric from Greece and Rome through the Medieval period.

Rules & Requirements
Grading Status: Letter grade.

COMM 771. History of Rhetoric II. 3 Credits.
A critical survey of the history of rhetoric, focusing on theories of rhetoric from the Renaissance through the 19th century.

Rules & Requirements
Grading Status: Letter grade.

COMM 772. Seminar in Contemporary Rhetorical Theory. 3 Credits.
A critical survey of the history of rhetoric focusing on rhetorical theory from the 20th century to the present.

Rules & Requirements
Grading Status: Letter grade.

COMM 774. Visual and Material Rhetorics. 3 Credits.
Addresses conceptual and practical issues in the rhetorical analysis and criticism of visual and material objects, practices, and events.

Rules & Requirements
Grading Status: Letter grade.

COMM 790. Seminar in Kenneth Burke. 3 Credits.
Seminar is an in-depth analysis of the writings of Kenneth Burke, concentrating on primary source materials.

Rules & Requirements
Grading Status: Letter grade.

COMM 792. Philosophy of Communication and Culture. 3 Credits.
Considers the history of and developments in the philosophy of communication and culture, as well as the role these concepts have played in western philosophy.

Rules & Requirements
Requisites: Prerequisite, COMM 700.
Grading Status: Letter grade.

COMM 798. Topics in Research Methods. 3 Credits.
Advanced study of selected topics in research methods. Topics vary.

Rules & Requirements
Grading Status: Letter grade.

COMM 811. Rhetorical Criticism. 3 Credits.
Investigates the function of rhetorical criticism, the critical method, and a variety of approaches to the performance of rhetorical criticism.

Rules & Requirements
Requisites: Prerequisite, COMM 571; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

COMM 812. Practicum in Rhetorical Criticism. 3 Credits.
Focuses on practice in writing rhetorical criticism and on mid-range theoretical concepts that inform critical analysis and argument.

Rules & Requirements
Grading Status: Letter grade.

COMM 815. Technology, Culture, & Power. 3 Credits.
This graduate seminar will serve as an advanced introduction to critical studies of modern technological systems. Drawing upon the fields of communication studies, science and technology studies, cultural studies, geography, anthropology, sociology, and gender studies, seminar participants will investigate the role of technologies in shaping social worlds and producing political orders. Attention will be given to the social construction of technological systems, the politics of mediation and resistance, and the encodings of power relations.

Rules & Requirements
Grading Status: Letter grade.

COMM 820. Critical Ethnic Studies (CES): New Perspectives. 3 Credits.
This course is devised to provide graduate students interested in theoretical interdisciplinary work with a sense of prevailing questions and critiques important to CES. CES takes on the more difficult questions of intersectional work, as it thinks through sovereignty and emancipation, identity and ontology, place, space and temporality. Each iteration of the course works itself through new perspectives in the field, challenging students to create new methodologies for their own work.

Rules & Requirements
Grading Status: Letter grade.
Same as: AMST 820, WGST 820.

COMM 822. Seminar in Family Communication. 3 Credits.
This course is an advanced seminar in which students may study family communication and produce original research.

Rules & Requirements
Grading Status: Letter grade.

COMM 824. Seminar in Feminist Studies in Communication. 3 Credits.
This course compares and critically evaluates the work of major feminist scholars in the field of communication. Spring.

Rules & Requirements
Requisites: Prerequisite, COMM 722.
Grading Status: Letter grade.

COMM 825. Seminar in Interpersonal and Organizational Communication. 3 Credits.
A variable topic seminar that permits faculty and graduate students the opportunity to explore significant historical and emerging issues in the field of communication.

Rules & Requirements
Grading Status: Letter grade.

COMM 841. Performance Ethnography. 3 Credits.
This seminar focuses on methods of ethnography and fieldwork ethics. Performance as theory and practice informs methodological inquiries as well as the analysis of specific ethnographic texts and case studies.

Rules & Requirements
Grading Status: Letter grade.
Same as: FOLK 841.

COMM 842. Seminar in Performance and Cultural Studies. 3 Credits.
This course focuses on performance-related issues in the emergent field of cultural studies.

Rules & Requirements
Grading Status: Letter grade.
Same as: FOLK 842.

COMM 843. Seminar in Contemporary Performance Theory. 3 Credits.
An advanced graduate seminar, this course will address recent developments and problems in performance theory. It will consider cross- and multidisciplinary approaches to performance as sites for consideration and debate.

Rules & Requirements
Grading Status: Letter grade.
Same as: FOLK 843.

COMM 844. Seminar in Performance and History. 3 Credits.
This course explores diverse relations among performance and history, including the performance of life histories, the use of spectacle in history, everyday performances of historical protocols, and performance itself as an historical construct.

Rules & Requirements
Grading Status: Letter grade.

COMM 845. The Political Economy of Performance. 3 Credits.
This course examines social relations, particularly power relations, by focusing on resistance as performance and the performance of resistance arising from the dynamics and conflicts within specific locations of a political economy.

Rules & Requirements
Grading Status: Letter grade.

COMM 846. Performance Pedagogy. 3 Credits.
Draped in the political, economic, and domestic histories of western culture our current pedagogies still point out the world that matters to each new generation. We will study these pedagogies from the perspectives of institutions, economies, and human relationships they simultaneously reflect and work to transform.

Rules & Requirements
Grading Status: Letter grade.

COMM 849. Seminar in Culture and Identity. 3 Credits.
This course looks at issues of the representation and production of identity, subjectivity, and agency - in various forms - in the practices of media.

Rules & Requirements
Grading Status: Letter grade.

COMM 850. Seminar in Media Studies. 3 Credits.
Selected problems in media aesthetics. Exact topic to be covered is announced before classes begin.

Rules & Requirements
Grading Status: Letter grade.

COMM 851. Research Methods in Media and Cultural Studies. 3 Credits.
Graduate standing required. Introduction to the issues, methods, and materials of research in media and cultural studies.

Rules & Requirements
Grading Status: Letter grade.

COMM 852. Seminar in the History of Media. 3 Credits.
Application of historical research techniques to problems in the mass media. Exact topic is announced before classes begin. May be repeated.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

COMM 853. Seminar in Popular Culture. 3 Credits.
This course will look at special topics in the study of popular culture. Designed for advanced graduate studies, it will consider critical responses to existing scholarship with original research.

Rules & Requirements
Grading Status: Letter grade.

COMM 854. Seminar in Media Difference. 3 Credits.
This seminar explores critical theories of difference and puts them into dialogue with media representations of difference.

Rules & Requirements
Grading Status: Letter grade.

COMM 855. Seminar in Cultural Studies. 3 Credits.
This class explores the impact of some developments in postmodernism - as an interpretive, historical, and philosophical discourse on the possible development of cultural studies.

Rules & Requirements
Requisites: Prerequisite, COMM 755.
Grading Status: Letter grade.

COMM 856. Seminar in Communication Technology. 3 Credits.
Examines new communication technologies, their spatial and social diffusion, and how these relate to theories of culture, politics, and technology and the real-world contexts in which technologies are received. May be repeated.

Rules & Requirements
Requisites: Prerequisite, COMM 700.
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

COMM 857. Seminar in Cultural Studies and Popular Culture. 3 Credits.
This course will focus on specific topics, issues, or queries of popular culture as these have been or can be studied within cultural studies.

Rules & Requirements
Requisites: Prerequisite, COMM 700.
Grading Status: Letter grade.

COMM 858. Seminar in Feminist Studies of Film and Television. 3 Credits.
Graduate standing required. This graduate seminar explores theoretical and practical points of contact between feminism, film, and television using psychoanalysis, narrative analysis, ideological analysis, and cultural studies.

Rules & Requirements
Grading Status: Letter grade.
Same as: WGST 858.

COMM 859. Seminar in Media and Cultural Studies. 3 Credits.
This course, designed for advanced graduate students, will explore specialized topics in interpretive, critical, and cultural research in media studies.

Rules & Requirements
Grading Status: Letter grade.

COMM 860. Aesthetics and Communication. 3 Credits.
Explores how theories of aesthetics have struggled with notions of beauty, value, pleasure, and pain in the human communicative experience.

Rules & Requirements
Grading Status: Letter grade.

COMM 873. Rhetoric and Black Culture. 3 Credits.
This course will examine the manner in which Black aesthetic and intellectual expressions and controversies function as public discourse in cultural politics.

Rules & Requirements
Grading Status: Letter grade.

COMM 874. Rhetorics of Space and Place. 3 Credits.
Considers place in relation to space and time. Primary concentration on implications of theorizing place as communicative practice rather than communicative context.

Rules & Requirements
Grading Status: Letter grade.

COMM 875. Rhetoric and Public Memory. 3 Credits.
Addresses the fundamentally rhetorical character of public memory. Analyzes theoretical presuppositions about memory. Openings for rhetorizing memory.

Rules & Requirements
Grading Status: Letter grade.

COMM 879. Topics in Rhetorical and Cultural Studies. 3 Credits.
Special problems in rhetorical and cultural studies. May be repeated.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

COMM 900. Research Practicum. 1-3 Credits.
Permission of the internship coordinator. Individualized practical experience supervised by a faculty advisor and by the departmental coordinator of internships. May be repeated.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

COMM 901. Directed Research. 3 Credits.
Permission of the instructor. Individual research on a problem defined by the graduate student and graduate faculty member in conference. May be repeated.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

COMM 907. Research Practicum in Communication Studies. 3 Credits.
Individualized practical research.

Rules & Requirements
Grading Status: Letter grade.

COMM 909. Proseminar in Professional Development. 1 Credits.
This course advances graduate students' exposure to academic resources and common norms, practices, and procedures related to academic professionalism in Communication Studies.

Rules & Requirements
Repeat Rules: May be repeated for credit. 2 total credits. 2 total completions.
Grading Status: Letter grade.

COMM 992. Master's (Non-Thesis). 3 Credits.
Focuses on the development of a master's project or a major paper other than a thesis.

Rules & Requirements
Repeat Rules: May be repeated for credit.

COMM 993. Master's Research and Thesis. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

COMM 994. Doctoral Research and Dissertation. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

Graduate-level Courses

NOTE: Courses are offered on demand except as otherwise noted.

COMM 700. Introduction to Modern Philosophy and Contemporary Theory. 3 Credits.
Considers the emergence of modern and contemporary social and cultural theory. Surveys major paradigms of modern and contemporary philosophy.

Rules & Requirements
Grading Status: Letter grade.

COMM 701. Introduction to Research and Theory in Communication Studies II. 3 Credits.
Admission to graduate program or permission of the department. Considers theory and philosophy in the study of communication. Surveys major paradigms of contemporary social/cultural theory (and their roots in modern philosophy) in relation to examples of communication research and practice. Second of two semesters.

Rules & Requirements
Grading Status: Letter grade.

COMM 702. Teaching in Communication Studies. 3 Credits.
Communication studies graduate students only. An introduction to teaching at the university level for new teaching assistants and graduate students hoping to have teaching-related responsibilities in communication studies. It is designed to encourage us to have intellectually rigorous and personally meaningful conversations about our teaching.

Rules & Requirements
Grading Status: Letter grade.

COMM 703. Communication and the Political. 3 Credits.
This course is designed for students to start thinking, in a historical and foundational way, about 'the political' as defined by formative thinkers from contrasting philosophical perspectives, as well as from necessarily different social positions within the field of power.

Rules & Requirements
Grading Status: Letter grade.

COMM 704. Communication and Discourse. 3 Credits.
This course focuses on the various ways that the problem of discourse is rendered inside and outside of Communication Studies. It examines the various modes at our disposal for thinking about discourse as a field of articulation: for example in theories of representation, mediation, and meaning making.

Rules & Requirements
Grading Status: Letter grade.

COMM 705. Communication and the Social. 3 Credits.
This class theorizes the Social by drawing on resources inside and outside of communication studies, thinking through the implicit and explicit investments that communication scholarship has in the concept of the social.

Rules & Requirements
Grading Status: Letter grade.

COMM 711. Performance as Method. 3 Credits.
Course introduces graduate students to performance practice as a way of knowing, an aesthetic expression, a form of pedagogy, a method of research, and a means of presenting findings. Students will develop and perform original work that creatively engages various research contexts.

Rules & Requirements
Grading Status: Letter grade.

COMM 712. The Body and Performance. 3 Credits.
This course will explore through performance the various ways the human body is 'marked' or signified in culture.

Rules & Requirements
Grading Status: Letter grade.

COMM 713. Primary Readings in Performance Studies. 3 Credits.
Course introduces graduate students to key texts that have informed the emergence of Performance Studies as a mode of inquiry into cultural, social, aesthetic, and political practices.

Rules & Requirements
Grading Status: Letter grade.

COMM 723. Research in Organizational Communication. 3 Credits.
Explores theoretical, methodological, and practical issues encountered in ethnographic, case study, and field research on communication phenomena in organizations.

Rules & Requirements
Grading Status: Letter grade.

COMM 724. Feminism, Science, and Communication. 3 Credits.
Critical examination of key feminist arguments about science and communication scholarship as conventionally defined; exploration of alternative goals, assumptions, and practices for research consistent with feminist theories and methodologies.

Rules & Requirements
Grading Status: Letter grade.

COMM 725. Interpretive Studies in Organizational Communication. 3 Credits.
Focuses on the theory and practice of interpretive organizational communication research, including organizational phenomena such as culture, metaphor, symbolism, ritual, and narrative.

Rules & Requirements
Requisites: Prerequisite, COMM 525; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

COMM 726. Critical Studies in Organizational Communication. 3 Credits.
Focuses on the theory and practice of critical organizational communication research, including organizational phenomena such as power, discourse, and culture.

Rules & Requirements
Requisites: Prerequisite, COMM 525; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

COMM 750. Cultural Studies. 3 Credits.
Graduate standing required. Introduction for graduate students to the current literature and critical perspectives in the areas of media and cultural studies.

Rules & Requirements
Grading Status: Letter grade.

COMM 752. Media and Social Change. 3 Credits.
This seminar inquires into the range of relationships between media and social life, with a particular emphasis on media's role in movements for social, economic, and/or cultural transformation.

Rules & Requirements
Grading Status: Letter grade.

COMM 753. Theories of the Audience/Public. 3 Credits.
This course offers a sustained analysis of the ways in which the media, audience, and/or public have been variously conceptualized historically, in critical theory.

Rules & Requirements
Grading Status: Letter grade.

COMM 754. Political, Institutional, and Economic Contexts of Media and Culture. 3 Credits.
A detailed analysis of the relationship between government, policy making, corporate and business interests, and various theoretical approaches to their impact on media and culture. Fall.

Rules & Requirements
Requisites: Prerequisite, COMM 700.
Grading Status: Letter grade.

COMM 755. History of Cultural Studies. 3 Credits.
This class introduces cultural studies through its British 'origins,' especially but not only the work of the Centre for Contemporary Cultural Studies and the Open University.

Rules & Requirements
Grading Status: Letter grade.

COMM 756. National, International, Transnational, and Global Movie/Media History. 3 Credits.
Explores the economic, social, ideological, technological, and aesthetic development of film and television as international, transnational, transcultural, and global entities, questioning the viability of the concept of national cinema/media in the 21st century.

Rules & Requirements
Grading Status: Letter grade.

COMM 758. Studies in Film and Television. 3 Credits.
Graduate introduction to the study of film, television, and video. This course traces the theoretical and methodological development of media studies.

Rules & Requirements
Grading Status: Letter grade.

COMM 761. Adaptation Seminar. 3 Credits.
This seminar recognizes and applies narrative theory in understanding texts, lives, and cultural practice broadly.

Rules & Requirements
Grading Status: Letter grade.

COMM 769. Topics in Performance Studies. 3 Credits.
Second-year graduate students and/or permission of the instructor. Special problems in performance studies.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

COMM 770. History of Rhetoric I. 3 Credits.
A critical survey of the history of rhetoric, focusing on Classical theories of rhetoric from Greece and Rome through the Medieval period.

Rules & Requirements
Grading Status: Letter grade.

COMM 771. History of Rhetoric II. 3 Credits.
A critical survey of the history of rhetoric, focusing on theories of rhetoric from the Renaissance through the 19th century.

Rules & Requirements
Grading Status: Letter grade.

COMM 772. Seminar in Contemporary Rhetorical Theory. 3 Credits.
A critical survey of the history of rhetoric focusing on rhetorical theory from the 20th century to the present.

Rules & Requirements
Grading Status: Letter grade.

COMM 774. Visual and Material Rhetorics. 3 Credits.
Addresses conceptual and practical issues in the rhetorical analysis and criticism of visual and material objects, practices, and events.

Rules & Requirements
Grading Status: Letter grade.

COMM 790. Seminar in Kenneth Burke. 3 Credits.
Seminar is an in-depth analysis of the writings of Kenneth Burke, concentrating on primary source materials.

Rules & Requirements
Grading Status: Letter grade.

COMM 792. Philosophy of Communication and Culture. 3 Credits.
Considers the history of and developments in the philosophy of communication and culture, as well as the role these concepts have played in western philosophy.

Rules & Requirements
Requisites: Prerequisite, COMM 700.
Grading Status: Letter grade.

COMM 798. Topics in Research Methods. 3 Credits.
Advanced study of selected topics in research methods. Topics vary.

Rules & Requirements
Grading Status: Letter grade.

COMM 811. Rhetorical Criticism. 3 Credits.
Investigates the function of rhetorical criticism, the critical method, and a variety of approaches to the performance of rhetorical criticism.

Rules & Requirements
Requisites: Prerequisite, COMM 571; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

COMM 812. Practicum in Rhetorical Criticism. 3 Credits.
Focuses on practice in writing rhetorical criticism and on mid-range theoretical concepts that inform critical analysis and argument.

Rules & Requirements
Grading Status: Letter grade.

COMM 815. Technology, Culture, & Power. 3 Credits.
This graduate seminar will serve as an advanced introduction to critical studies of modern technological systems. Drawing upon the fields of communication studies, science and technology studies, cultural studies, geography, anthropology, sociology, and gender studies, seminar participants will investigate the role of technologies in shaping social worlds and producing political orders. Attention will be given to the social construction of technological systems, the politics of mediation and resistance, and the encodings of power relations.

Rules & Requirements
Grading Status: Letter grade.

COMM 820. Critical Ethnic Studies (CES): New Perspectives. 3 Credits.
This course is devised to provide graduate students interested in theoretical interdisciplinary work with a sense of prevailing questions and critiques important to CES. CES takes on the more difficult questions of intersectional work, as it thinks through sovereignty and emancipation, identity and ontology, place, space and temporality. Each iteration of the course works itself through new perspectives in the field, challenging students to create new methodologies for their own work.

Rules & Requirements
Grading Status: Letter grade.
Same as: AMST 820, WGST 820.

COMM 822. Seminar in Family Communication. 3 Credits.
This course is an advanced seminar in which students may study family communication and produce original research.

Rules & Requirements
Grading Status: Letter grade.

COMM 824. Seminar in Feminist Studies in Communication. 3 Credits.
This course compares and critically evaluates the work of major feminist scholars in the field of communication. Spring.

Rules & Requirements
Requisites: Prerequisite, COMM 722.
Grading Status: Letter grade.

COMM 825. Seminar in Interpersonal and Organizational Communication. 3 Credits.
A variable topic seminar that permits faculty and graduate students the opportunity to explore significant historical and emerging issues in the field of communication.

Rules & Requirements
Grading Status: Letter grade.

COMM 841. Performance Ethnography. 3 Credits.
This seminar focuses on methods of ethnography and fieldwork ethics. Performance as theory and practice informs methodological inquiries as well as the analysis of specific ethnographic texts and case studies.

Rules & Requirements
Grading Status: Letter grade.
Same as: FOLK 841.

COMM 842. Seminar in Performance and Cultural Studies. 3 Credits.
This course focuses on performance-related issues in the emergent field of cultural studies.

Rules & Requirements
Grading Status: Letter grade.
Same as: FOLK 842.

COMM 843. Seminar in Contemporary Performance Theory. 3 Credits.
An advanced graduate seminar, this course will address recent developments and problems in performance theory. It will consider cross- and multidisciplinary approaches to performance as sites for consideration and debate.

Rules & Requirements
Grading Status: Letter grade.
Same as: FOLK 843.

COMM 844. Seminar in Performance and History. 3 Credits.
This course explores diverse relations among performance and history, including the performance of life histories, the use of spectacle in history, everyday performances of historical protocols, and performance itself as an historical construct.

Rules & Requirements
Grading Status: Letter grade.

COMM 845. The Political Economy of Performance. 3 Credits.
This course examines social relations, particularly power relations, by focusing on resistance as performance and the performance of resistance arising from the dynamics and conflicts within specific locations of a political economy.

Rules & Requirements
Grading Status: Letter grade.

COMM 846. Performance Pedagogy. 3 Credits.
Draped in the political, economic, and domestic histories of western culture our current pedagogies still point out the world that matters to each new generation. We will study these pedagogies from the perspectives of institutions, economies, and human relationships they simultaneously reflect and work to transform.

Rules & Requirements
Grading Status: Letter grade.

COMM 849. Seminar in Culture and Identity. 3 Credits.
This course looks at issues of the representation and production of identity, subjectivity, and agency - in various forms - in the practices of media.

Rules & Requirements
Grading Status: Letter grade.

COMM 850. Seminar in Media Studies. 3 Credits.
Selected problems in media aesthetics. Exact topic to be covered is announced before classes begin.

Rules & Requirements
Grading Status: Letter grade.

COMM 851. Research Methods in Media and Cultural Studies. 3 Credits.
Graduate standing required. Introduction to the issues, methods, and materials of research in media and cultural studies.

Rules & Requirements
Grading Status: Letter grade.

COMM 852. Seminar in the History of Media. 3 Credits.
Application of historical research techniques to problems in the mass media. Exact topic is announced before classes begin. May be repeated.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

COMM 853. Seminar in Popular Culture. 3 Credits.
This course will look at special topics in the study of popular culture. Designed for advanced graduate studies, it will consider critical responses to existing scholarship with original research.

Rules & Requirements
Grading Status: Letter grade.

COMM 854. Seminar in Media Difference. 3 Credits.
This seminar explores critical theories of difference and puts them into dialogue with media representations of difference.

Rules & Requirements
Grading Status: Letter grade.

COMM 855. Seminar in Cultural Studies. 3 Credits.
This class explores the impact of some developments in postmodernism - as an interpretive, historical, and philosophical discourse on the possible development of cultural studies.

Rules & Requirements
Requisites: Prerequisite, COMM 755.
Grading Status: Letter grade.

COMM 856. Seminar in Communication Technology. 3 Credits.
Examines new communication technologies, their spatial and social diffusion, and how these relate to theories of culture, politics, and technology and the real-world contexts in which technologies are received. May be repeated.

Rules & Requirements
Requisites: Prerequisite, COMM 700.
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

COMM 857. Seminar in Cultural Studies and Popular Culture. 3 Credits.
This course will focus on specific topics, issues, or queries of popular culture as these have been or can be studied within cultural studies.

Rules & Requirements
Requisites: Prerequisite, COMM 700.
Grading Status: Letter grade.

COMM 858. Seminar in Feminist Studies of Film and Television. 3 Credits.
Graduate standing required. This graduate seminar explores theoretical and practical points of contact between feminism, film, and television using psychoanalysis, narrative analysis, ideological analysis, and cultural studies.

Rules & Requirements
Grading Status: Letter grade.
Same as: WGST 858.

COMM 859. Seminar in Media and Cultural Studies. 3 Credits.
This course, designed for advanced graduate students, will explore specialized topics in interpretive, critical, and cultural research in media studies.

Rules & Requirements
Grading Status: Letter grade.

COMM 860. Aesthetics and Communication. 3 Credits.
Explores how theories of aesthetics have struggled with notions of beauty, value, pleasure, and pain in the human communicative experience.

Rules & Requirements
Grading Status: Letter grade.

COMM 873. Rhetoric and Black Culture. 3 Credits.
This course will examine the manner in which Black aesthetic and intellectual expressions and controversies function as public discourse in cultural politics.

Rules & Requirements
Grading Status: Letter grade.

COMM 874. Rhetorics of Space and Place. 3 Credits.
Considers place in relation to space and time. Primary concentration on implications of theorizing place as communicative practice rather than communicative context.

Rules & Requirements
Grading Status: Letter grade.

COMM 875. Rhetoric and Public Memory. 3 Credits.
Addresses the fundamentally rhetorical character of public memory. Analyzes theoretical presuppositions about memory. Openings for rhetorizing memory.

Rules & Requirements
Grading Status: Letter grade.

COMM 879. Topics in Rhetorical and Cultural Studies. 3 Credits.
Special problems in rhetorical and cultural studies. May be repeated.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

COMM 900. Research Practicum. 1-3 Credits.
Permission of the internship coordinator. Individualized practical experience supervised by a faculty advisor and by the departmental coordinator of internships. May be repeated.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

COMM 901. Directed Research. 3 Credits.
Permission of the instructor. Individual research on a problem defined by the graduate student and graduate faculty member in conference. May be repeated.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

COMM 907. Research Practicum in Communication Studies. 3 Credits.
Individualized practical research.

Rules & Requirements
Grading Status: Letter grade.

COMM 909. Proseminar in Professional Development. 1 Credits.
This course advances graduate students' exposure to academic resources and common norms, practices, and procedures related to academic professionalism in Communication Studies.

Rules & Requirements
Repeat Rules: May be repeated for credit. 2 total credits. 2 total completions.
Grading Status: Letter grade.

COMM 992. Master's (Non-Thesis). 3 Credits.
Focuses on the development of a master's project or a major paper other than a thesis.

Rules & Requirements
Repeat Rules: May be repeated for credit.

COMM 993. Master's Research and Thesis. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

COMM 994. Doctoral Research and Dissertation. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

Contact Information

Department of Communication
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DEPARTMENT OF COMPUTER SCIENCE (GRAD)

The Department of Computer Science at UNC–Chapel Hill, established in 1964, was only the second independent university computer science department in the United States. Its primary missions are research and graduate and undergraduate teaching. Research particularly emphasizes:

- bioinformatics and computational biology
- cloud computing
- computer architecture
- computer graphics
- computer-supported collaborative work
- computer vision
- cyber-physical systems
- data science
- deep learning
- geometric computing
- high-performance computing
- human-computer interaction
- machine learning
- medical image analysis
- natural language processing
- networking
- real-time systems
- robotics
- security
- software engineering
- theory

The M.S. and Ph.D. curricula are oriented toward the design and application of real computer systems and toward that portion of theory that guides and supports practice. The Ph.D. program prepares teachers and researchers for positions with universities, government research laboratories, and industry. Academic employment ranges from four-year colleges, where teaching is the primary focus, to positions at major research universities. The M.S. program prepares highly competent and broadly skilled practitioners. A majority of the master's graduates work in industry, in companies ranging from small start-up operations to government laboratories and large research and development corporations.

Most of the department's approximately 150 graduate students are full-time. Students contribute to nearly every aspect of the department's operation. In addition to taking a variety of courses, they participate in groundbreaking research, teach, attend research group meetings, and can serve on committees that affect all aspects of life in the department.

The Computer Science Student Association sponsors both professional and social events and represents the students in departmental matters. Its president is a voting member at faculty meetings.

Facilities

The Department of Computer Science is housed in two adjacent buildings, the Frederick P. Brooks Jr. Computer Science Building and J. Carlyle Sitterson Hall. These two buildings are connected by hallways on all floors so that they function as a single, larger building.

The Brooks Building was dedicated in 2008 and named for the department's founding chair, Frederick P. Brooks Jr. It opened up 32,000 square feet of new research space, offices, and classrooms. These include a 50-seat classroom; the Stephen F. Weiss Seminar Room, with seating for 20 around a table; the Registrar's classroom, with theater seating for 80; and the Faculty Conference Room, which seats 50 at tiers of curved desktops. Meetings or discussion groups take place in the chair's conference room and in five smaller meeting areas, each with projectors. The robotics lab has high bay ceilings for aerial drone research as well as a number of terrestrial based robot platforms ranging from single arms to quadrupeds.

Sitterson Hall, which opened in 1987, provides 74,000 square feet of offices and a variety of dedicated lab spaces for different research focuses. This includes hardware engineering labs which house equipment for rapid prototyping, machining, electronics, optics and chemistry. There are also computer vision and embedded systems labs outfitted with cameras, tracking systems, radar systems and AR/VR headsets. The largest space is a newly renovated AI lab that has been outfitted with new furniture featuring 30 standing desks and chairs matched with widescreen monitors and high speed desktop machines.

Graduate students have access to all of the department's research and teaching facilities, including specialized research laboratories for graphics and image processing, robotics, computer building and design, and collaborative, distributed, and parallel systems. The laboratories, offices, conference areas, and classrooms are bound together by the department's fully integrated, distributed computing environment.

General Computing Environment

The department’s computing environment includes over 1000 computers, ranging from older systems used for generating network traffic for simulated Internet experiments to state-of-the-art GPU workstations and clusters for graphics and compute-intensive research. Departmental servers provide computing services, disk space, email, source code repositories, web services, database services, backups, in addition to other services. All systems are integrated by means of high-speed networks, described below, and are supported by highly skilled technical staff who provide a consistent computing environment throughout the department.

The network infrastructure available to Computer Science is extensive. In the Frederick P. Brooks, Jr. Building and Sitterson Hall every office and common space is equipped with category 6 or better twisted pair cable. All offices in Sitterson also have coaxial and fiber optic cable. All data connections in the both buildings support 1 Gigabit per second, and we have a growing number of systems using 10 Gigabit connections. Extensive riser connections enable the department to create multiple separate physical networks between any points in the two buildings.

Wifi networks are available throughout both buildings. A 10 Gigabit link connects the department’s network to the UNC-CH campus network and the North Carolina Research and Education Network (NC-REN), allowing users to access the National LambdaRail/Internet 2 network and commodity Internet. We also have a 10 gigabit connection through the Renaissance Computing Institute (RENCI) to the Global Environment for Network Innovations (GENI) project. The department’s network is connected to the North Carolina Research and Education Network

(NC-REN), a statewide network that links research and educational institutions.

In addition to the departmental servers, our research laboratories contain a wide variety of specialized equipment. We also have an extensive virtual machine infrastructure spanning two machine rooms. Most of our systems, including servers, run Linux-based operating systems, while a smaller number of systems run Windows. Programming languages most used in the department include Python, C, C++, and Java.

Admissions and Financial Aid

Admission to the department is highly competitive, and preference is given to applicants who are solidly prepared. Although the department welcomes promising students from all disciplines, entering students must have a substantial background in both mathematics and computer science. This background normally includes at least six semester courses in mathematics and six in computer science. Students who are admitted but who have not completed all the requirements must complete them after admission. For more in-depth information on the admissions process see the department's (https://cs.unc.edu/graduate/graduate-overview/) and The Graduate School's (http://gradschool.unc.edu/admissions/) Web sites.

Sponsorship

Because of the large number of applicants, the department's faculty members are unable to provide individual assessments of an applicant's chances for admission. Admissions decisions are made by a faculty committee that reviews all applications, ranks the applicants by overall merit, and makes decisions on admission and financial support based on the application material submitted. Students are assigned to specific research projects just prior to the start of each semester, after faculty members and students have had an opportunity to meet and to discuss their interests.

Deadlines

Applicants for fall admission are encouraged to submit all application materials, complete with a personal statement, all transcripts, and recommendations, to The Graduate School by early January. To ensure meeting that deadline, applicants are encouraged to take the Graduate Record Examination (GRE) no later than December 1. Early submission of applications is encouraged. International applicants should complete their applications earlier to allow time for processing financial and visa documents.

For more information, send electronic mail to info@cs.unc.edu. Interested persons are encouraged to visit the department's Web site (http://www.cs.unc.edu).

Computer Science, Master's Degree (M.S.)

An M.S. candidate must earn 30 semester hours of credit in courses numbered 400 or higher (with the exception of some introductory courses), of which up to six hours may be transferred from another institution or graduate program, and of which 18 hours must be completed in the Department of Computer Science. A candidate must also satisfy the program product requirement and must demonstrate the ability to write a professional-quality technical document. A comprehensive exam (written or oral) is required for degree completion. For more in-depth information (https://cs.unc.edu/graduate/graduate-overview/) see the department's Web site.

Course Requirements

Code	Title	Hours
Core Courses [1]		
Computer Science Courses [2]		18
Breadth Requirement		**9**
Each student must take one course in each of the following categories to fulfill a breadth requirement. [3]		
Thesis/Substitute or Dissertation		
COMP 992	Master's (Non-Thesis) [4]	3
or COMP 993	Master's Research and Thesis	
Minimum Hours		**30**

1. Courses numbered 400 or higher must be taken (excluding COMP 495, COMP 496, COMP 691H, COMP 692H, and COMP 990).
2. Of the minimum 30 hours, at least 18 hours must be taken in Computer Science (designated COMP in the catalog) numbered 400-890. At least 3 credit hours of COMP 992 or COMP 993 is required by The Graduate School. The remaining 9 credit hours, if outside COMP, should support M.S. graduate work (e.g., STAT courses for students focused on A.I.) and must be approved by the academic advisor in advance.
3. At most one course in the set can be at the 500 level or COMP 455. The other courses must be at the 600 level or above. Courses taken at UNC as a graduate student for the breadth requirement will be accepted automatically. The Graduate Studies Committee will consider courses taken at another graduate program, or equivalent professional experience, and/or graduate courses taken during undergraduate study, on a case by case basis. A section of COMP 790 may be used to satisfy any of the three categories; each 790 instance is assigned a category here (https://cs.unc.edu/graduate/categories-of-courses/).
4. No more than 6 credits of COMP 991 and no more than 6 credits of COMP 992/COMP 993 can be used towards the MS credit hour requirement.

Code	Title	Hours
Breadth Requirement Electives		
Theory and Formal Methods		
COMP 455	Models of Languages and Computation	
COMP 537	Cryptography [H]	
COMP 555	Bioalgorithms	
COMP 576	Mathematics for Image Computing	
COMP 651	Computational Geometry	
COMP 662	Scientific Computation II	
or MATH 662	Scientific Computation II	
COMP 664	Deep Learning	
COMP 735	Distributed and Concurrent Algorithms	
COMP 737	Real-Time Systems	
COMP 750	Algorithm Analysis	
COMP 755	Machine Learning	
COMP 766	Visual Solid Shape	
COMP 777	Optimal Estimation in Image Analysis	
Systems and Hardware		
COMP 520	Compilers	
COMP 523	Software Engineering Laboratory	
COMP 530	Operating Systems [H]	

COMP 535	Introduction to Computer Security
COMP 541	Digital Logic and Computer Design
COMP 630	Operating System Implementation
COMP 631	Networked and Distributed Systems
COMP 633	Parallel and Distributed Computing
COMP 635	Wireless and Mobile Communications
COMP 720	Compilers
COMP 723	Software Design and Implementation
COMP 730	Operating Systems
COMP 734	Distributed Systems
COMP 740	Computer Architecture and Implementation
COMP 832	Multimedia Networking
Applications	
COMP 560	Artificial Intelligence
COMP 572	Computational Photography
COMP 581	Introduction to Robotics [H]
COMP 683	Computational Biology
COMP 770	Computer Graphics
COMP 775	Image Processing and Analysis
COMP 776	Computer Vision in our 3D World
COMP 781	Robotics
COMP 782	Motion Planning in Physical and Virtual Worlds
COMP 872	Exploring Virtual Worlds
COMP 875	Recent Advances in Image Analysis
COMP 562	Introduction to Machine Learning [H]

[H] Honors version available. An honors course fulfills the same requirements as the nonhonors version of that course. Enrollment and GPA restrictions may apply.

Milestones

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 27) for more information.

- Master's Committee
- Master's Oral Exam/Approved Exam Substitute
- Master's Written Exam/Approved Exam Substitute
- Thesis Substitute
- Thesis/Substitute Defense
- Approved Master's Thesis
- Residence Credit
- Master's Exit Survey
- Program Product Requirement

Computer Science, Doctoral Program (Ph.D.)

Admission to the doctoral program is by a vote of the department faculty and is determined by performance on the preliminary research presentation and exam, course grades, admissions information, accomplishment on assistantships, and other testimony from the faculty. Admission is normally considered following the research presentation and exam. Students who have been major contributors to a paper submitted to a well-known, refereed conference or journal may apply for a waiver of the admissions exam. There is no credit hour requirement for the Ph.D. program, but a Ph.D. candidate must complete courses to satisfy the distribution requirement and any needed background preparation, and must write a comprehensive paper. A candidate must also satisfy the program product requirement, participate in the technical communication seminar, pass an oral examination in the proposed dissertation area, and submit and defend a dissertation that presents an original contribution to knowledge. The normal time needed to complete the degree by a full-time student with an assistantship is five years. For more in-depth information (https://cs.unc.edu/graduate/phd/) see the department's Web site.

Course Requirements

Code	Title	Hours
Core Courses		
COMP 915	Technical Communication in Computer Science	3
Primary Concentration [1]		9
Breadth Requirement		18
	Each student must take an additional 6 courses to fulfill a breadth requirement. Courses are classified into 4 categories. View elective course options below.	
Thesis/Substitute or Dissertation		
COMP 994	Doctoral Research and Dissertation [2]	3
Minimum Hours		**36**

[1] At least 3 three-hour graduate courses, of which at least two support the specific dissertation topic in depth, and at least one more broadly supports the area of computer science in which the dissertation topic falls. These courses can be taken at another university or as an undergraduate, and may have been counted toward an undergraduate degree.

[2] Students must take COMP 994 twice for a minimum of 6 credit hours.

Code	Title	Hours
Breadth Requirement Electives		
Theory and Formal Thinking		
COMP 455	Models of Languages and Computation	
COMP 537	Cryptography [H]	
COMP 555	Bioalgorithms	
COMP 562	Introduction to Machine Learning [H]	
COMP 576	Mathematics for Image Computing	
COMP 651	Computational Geometry	
COMP 662	Scientific Computation II	
or MATH 662	Scientific Computation II	
COMP 664	Deep Learning	
COMP 735	Distributed and Concurrent Algorithms	
COMP 737	Real-Time Systems	
COMP 750	Algorithm Analysis	
COMP 755	Machine Learning	
COMP 766	Visual Solid Shape	
COMP 777	Optimal Estimation in Image Analysis	
Sytems and Hardware		
COMP 520	Compilers	
COMP 523	Software Engineering Laboratory	
COMP 530	Operating Systems [H]	
COMP 535	Introduction to Computer Security	

COMP 541	Digital Logic and Computer Design
COMP 630	Operating System Implementation
COMP 631	Networked and Distributed Systems
COMP 633	Parallel and Distributed Computing
COMP 635	Wireless and Mobile Communications
COMP 720	Compilers
COMP 723	Software Design and Implementation
COMP 730	Operating Systems
COMP 734	Distributed Systems
COMP 740	Computer Architecture and Implementation
Applications	
COMP 560	Artificial Intelligence
COMP 572	Computational Photography
COMP 581	Introduction to Robotics [H]
COMP 683	Computational Biology
COMP 770	Computer Graphics
COMP 775	Image Processing and Analysis
COMP 776	Computer Vision in our 3D World
COMP 781	Robotics
COMP 782	Motion Planning in Physical and Virtual Worlds
COMP 872	Exploring Virtual Worlds
COMP 875	Recent Advances in Image Analysis
Approved Courses Outside of Computer Science	
BIOS 600	Principles of Statistical Inference
STOR 555	Mathematical Statistics

H Honors version available. An honors course fulfills the same requirements as the nonhonors version of that course. Enrollment and GPA restrictions may apply.

The set of six breadth courses must meet the following criteria.

1. At least one course in each of the 3 CS categories, and at the 600 level or above.
2. Normally no more than 2 courses in any category but students may petition to apply 3 in a category outside of their thesis research area(s).
3. All 6 courses must have been taken as a graduate student. Courses taken at UNC that satisfy the guidelines for the set of breadth courses will be accepted automatically. The Graduate Studies Committee will consider courses taken at another graduate program, or equivalent professional experience, and/or graduate courses taken during undergraduate study, on a case by case basis (course waiver forms must be submitted for consideration).
4. PhD Computer Science graduate students that have a non-CS background can petition GSC (with justification) in order to consider exceptions for the breadth requirement.
5. At most 1 CS course in the set of 6 courses can be at the 500 level or COMP 455. (We may consider 2, by petition to the Grad Studies Committee, for students with non-CS backgrounds doing interdisciplinary research.) COMP 550 is not allowed to be in the set.
6. The non-CS courses must support either the dissertation research or the field of computer science, and be at the 400 level or above. If the course is not on the standard list, it must be approved by the Graduate Studies Committee.

Milestones

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 27) for more information.

- Doctoral Committee
- Doctoral Oral Comprehensive Exam
- Doctoral Written Exam (PRP)
- Prospectus Oral Exam
- Dissertation Defense
- Doctoral Dissertation Approved/Format Accepted
- Residence Credit
- Doctoral Exit Survey
- Program Product Requirement

Following the faculty member's name is a section number that students should use when registering for independent studies, reading, research, and thesis and dissertation courses with that particular professor.

Professors

Stanley Ahalt (82), Director of the Renaissance Computing Institute (RENCI); Signal, Image, and Video Processing; High-Performance Scientific and Industrial Computing; Pattern Recognition Applied to National Security Problems; High-Productivity, Domain-Specific Languages

Ron Alterovitz (99), Medical Robotics, Motion Planning, Physically Based Simulation, Assistive Robotics, Medical Image Analysis

James Anderson (62), Real-Time Systems, Distributed and Concurrent Algorithms, Multicore Computing, Operating Systems

Mohit Bansal (139), Statistical Natural Language Processing and Machine Learning

Samarjit Chakraborty (148), Distributed Embedded Systems, Hardware/Software Co-Design, Embedded Control Systems, Low-Power Systems, Energy Storage Systems, Electromobility, and Sensor Network-Based Information Processing

Prasun Dewan (63), User Interfaces, Distributed Collaboration, Software Engineering Environments, Mobile Computing, Access Control

Henry Fuchs (11), Virtual Environments, Telepresence, Future Office Environments, 3-D Medical Imaging, Computer Vision and Robotics

Kevin Jeffay (40), Computer Networking, Operating Systems, Real-Time Systems, Multimedia Networking, Performance Evaluation

Stephen M. Pizer (6), Image Display and Analysis, Medical Imaging, Human and Computer Vision, Graphics

Donald Porter (138), Operating systems, Virtualization, File Systems, Security, Concurrent Programming

Jack S. Snoeyink (79), Computational Geometry, Algorithms for Geographical Information Systems and Structural Biology, Geometric Modeling and Computation, Algorithms and Data Structures, Theory of Computation

David Stotts (59), Computer-Supported Cooperative Work, Especially Collaborative User Interfaces; Software Engineering, Design Patterns and Formal Methods; Hypermedia and Web Technology

Associate Professors

Snigdha Chaturvedi (158), Natural Language Understanding, Applications of Machine Learning and Natural Language Processing

Jasleen Kaur (88), Design and Analysis of Networks and Distributed Systems, High-Speed Congestion Control, Resource Management, Internet Measurements, and Transport Protocols

Ketan Mayer-Patel (80), Multimedia Systems, Networking, Multicast Applications
Leonard McMillan (87), Computational Biology, Genetics, Genomics, Bioinformatics, Information Visualization, Data-Driven Modeling, Image Processing, Imaging Technologies, Computer Graphics
Shahriar Nirjon (137), Mobile Computing, Embedded Sensor Systems, Wireless Networks, Data Analytics for Mobile Systems
Junier Oliva (142), Machine Learning, Artificial Intelligence, Nonparametric Statistics, Deep Learning, Statistical Data Mining, Signal Processing, Graphical Models, Generative Models, Kernel Methods, Scalability, Complex Datasets, Optimization, Density Estimation
Montek Singh (84), High-Performance and Low-Power Digital Systems, Asynchronous and Mixed-Timing Circuits and Systems, VLSI CAD Tools, Energy-Efficient Graphics Hardware, Applications to Computer Security, Emerging Computing Technologies
Cynthia Sturton (132), Computer and Hardware Security, Applied Formal Methods for Software Security
Daniel Szafir (172), Human-Robot Interaction, Human-Computer Interaction, Virtual/Augmented/Mixed Reality, User-Centered Design, Human-Centered Computing, Aerial Robotics
Danielle Szafir (173), Visualization, Data Analytics, Computer Graphics, Virtual and Augmented Reality

Assistant Professors

Benjamin Berg (178), Performance Modeling, Scheduling, Resource Allocation, Caching
Gedas Bertasius (170), Video Understanding, First-Person Vision, Human Behavior Modeling, Multi-Modal Deep Learning, Transfer Learning
Praneeth Chakravarthula (175), Computational Displays and Imaging, Holographic/3D Displays, Augmented and Virtual Reality, Diffractive Optics, Artificial Intelligence, Human-Computer Interaction
Tianlong Chen (187), Machine Learning Problems: Sparsity, Robustness, Learning to Optimize, Graph Learning, Diffusion Models
Zhun Deng, Machine Learning, Statistics, Theoretical Computer Science
Mingyu Ding (190), Robotics, Robot Learning, Embodied AI, Manipulation, Computer Vision, 3D/Multimodal Learning, Mechanical Design, Human-Robot Interaction
Parasara Sridhar Duggirala (144), Cyber-Physical Systems, Formal Methods, Control Theory, Hybrid Systems, Autonomy, Embedded and Real-Time Systems, Probabilistic Systems
Saba Eskandarian (171), Applied Cryptography, Security, Privacy
Andrew Kwong (184), Security, Applied Cryptography
Julia Len, Applied Cryptography, Computer Security
Raghavendra Pothukuchi, Computer Architecture and Systems, Brain-Computer Interfaces, Quantum Computing, Brain-Inspired AI Hardware, Cognitive Modeling, Formal Control, Energy and Power Efficiency, Security, Machine Learning
Roni Sengupta (177), Computer Vision, Graphics, Computational Photography, 3D Vision, Inverse Graphics, Inverse Rendering, Democratizing VFX, Next-Generation Video Communication
Shashank Srivastava (157), Topics in Natural Language Processing, AI, Machine Learning and Their Applications; Focus on Language Grounding and Pragmatics, Neuro-symbolic Methods, Text Analysis, Latent Variable Models
Natalie Stanley (166), Single-Cell Bioinformatics, Computational and Systems Immunology, Algorithms for Representing and Understanding Graph-Based Data
Huaxiu Yao (183), Generalizable, Well-Aligned, and Agentic Foundation Models (LLMs, VLMs, Diffusion Models)

Research Professors

Jay Aikat (126), Experimental Methods and Models in Networking Research and Education, Measurement and Modeling of Internet Traffic, Protocol Benchmarking, Internet Traffic Generation, Wireless Networks, Congestion Control and Active Queue Management
Jan-Michael Frahm (97), Structure from Motion, Camera Self-Calibration, Camera Sensor Systems, Multi-Camera Systems, Multi-View Stereo, Robust Estimation, Fast Tracking of Salient Features in Images and Video, Computer Vision, Active Vision for Model Improvement, Markerless Augmented Reality
Ashok Krishnamurthy (137), Data Science, Health Informatics and Applications
David Luebke (156), Computer Graphics, Display Technology, Ray Tracing, Virtual and Augmented Reality
Dinesh Manocha (58), Interactive Computer Graphics, Geometric and Solid Modeling, Robotics Motion Planning, Many-Core Algorithms
David A. Plaisted (28), Mechanical Theorem Proving, Term Rewriting Systems, Logic Programming, Algorithms
Diane Pozefsky (93), Software Engineering and Environments, Computer Education, Serious Games Design and Development, Social, Legal and Ethical Issues Concerning Information Technology
Michael K. Reiter (95), Computer and Network Security, Distributed Systems, Applied Cryptography
F. Donelson Smith (42), Computer Networks, Operating Systems, Distributed Systems, Multimedia
P.S. Thiagarajan (180)
Mary C. Whitton (81), Developing and Evaluating Technology for Virtual and Augmented Reality Systems, Virtual Locomotion, Tools for Serious Games

Research Associate Professor

Martin Styner (94), Medical Image Processing and Analysis Including Anatomical Structure and Tissue Segmentation, Morphometry Using Shape Analysis, Modeling and Atlas Building, Intra and Inter-Modality Registration

Teaching Professor

Tessa Joseph Nicholas (86), New Media Arts and Poetics, Digital Communities, Digital-Age Ethics

Teaching Associate Professor

Sayeed Ghani (179), Applications of Artificial Intelligence and Deep Learning in Health/IoT and Wireless Sensor Networks
Brent Munsell (159), Medical Image Analysis, Shape Modeling, Brain Connectivity, Machine Learning, Computational Medicine

Teaching Assistant Professors

Prairie Rose Goodwin (188), Data Modeling, Real-Time Analytics, Human-Computer Interaction
Isabella Hinks, Machine Learning, Remote Sensing, Statistics, Causal Inference
Alyssa Lytle (182), Formal Methods, Human-Robot Interaction
Connor McMahon, Computer Science Education
Jorge Silva (161)
Kevin Sun, Online Algorithms, Combinatorial Optimization, Computer Science Education

Professors of the Practice

Kris Jordan (140), Educational Technology, Distributed Systems, Entrepreneurship
Richard Marks, Augmented and Virtual Reality, Computer Vision, Signal Processing, Machine Learning
Michael Reed (143)

Adjunct Professors

J. Stephen Marron (114), Smoothing Methods for Curve Estimation
Marc Niethammer (98), Medical Image Analysis; Shape Analysis, Image Segmentation, Deformable Registration, Image-Based Estimation Methods
Julian Rosenman (112), Computer Graphics for Treatment of Cancer Patients, Contrast Enhancement for X-rays
Dinggang Shen (104)
Alexander Tropsha (111)
Gregory F. Welch (71), Human Motion Tracking Systems, 3-D Telepresence, Projector-Based Graphics, Computer Vision and View Synthesis, Medical Applications of Computers
Turner Whitted (122), Algorithms, Architectures, Displays for Graphics Applications Including Virtual and Augmented Reality
Hongtu Zhu

Adjunct Associate Professors

Jaime Arguello, Information Retrieval, Aggregated Search Systems and Evaluation, Search Behavior, Text Data Mining, Machine Learning
Stephen R. Aylward (109), Computer-Aided Diagnosis, Computer-Aided Surgical Planning, Statistical Pattern Recognition, Image Processing, Neural Networks
Tamara Berg (48), Computer Vision, Natural Language Processing, Visual Recognition and Retrieval, Visual Social Media and Socio-Identity, Human-In-The-Loop Recognition, Gaze Pattern Analysis, Image Description Generation, Clothing Recognition
David Gotz (151)
Guorong Wu (167)
Pew-Thian Yap (164)

Adjunct Assistant Professors

Neil Gaikwad, AI Ethics, Human-AI Value Alignment, Human-Computer Interaction, Computational Sustainability, AI Policy and Governance
Harlin Lee (185), Data Science, Machine Learning, Signal Processing
Yun Li (128)
Beatriz Paniagua (51), Advanced Computer Vision Techniques Applied to Quality Control Industrial Environments
Quoc Tran-Dinh, Numerical Optimization

Adjunct Research Professor

Russell M. Taylor II (69), 3D Interactive Computer Graphics, Virtual Worlds, Distributed Computing, Scientific Visualization, Human-Computer Interaction

Professors Emeriti

Gary Bishop
Peter Calingaert
John H. Halton
Anselmo Lastra
Ming C. Lin
John B. Smith
Donald F. Stanat
Stephen F. Weiss
William V. Wright

COMP

Advanced Undergraduate and Graduate-level Courses

COMP 401. Foundation of Programming. 4 Credits.
Required preparation, a first formal course in computer programming (e.g., COMP 110, COMP 116). Advanced programming: object-oriented design, classes, interfaces, packages, inheritance, delegation, observers, MVC (model view controller), exceptions, assertions. Students may not receive credit for this course after receiving credit for COMP 301. Honors version available.

Rules & Requirements
Requisites: Prerequisite, MATH 231 or MATH 241; a grade of C or better is required.
Grading Status: Letter grade.

COMP 410. Data Structures. 3 Credits.
The analysis of data structures and their associated algorithms. Abstract data types, lists, stacks, queues, trees, and graphs. Sorting, searching, hashing. Students may not receive credit for this course after receiving credit for COMP 210.

Rules & Requirements
Requisites: Prerequisites, MATH 231 or 241, and COMP 401; a grade of C or better is required in all prerequisite courses.
Grading Status: Letter grade.

COMP 411. Computer Organization. 4 Credits.
Digital logic, circuit components. Data representation, computer architecture and implementation, assembly language programming. Students may not receive credit for this course after receiving credit for COMP 311.

Rules & Requirements
Requisites: Prerequisite, MATH 231 or 241,and COMP 401; a grade of C or better is required in all prerequisite courses.
Grading Status: Letter grade.

COMP 421. Files and Databases. 3 Credits.
Placement of data on secondary storage. File organization. Database history, practice, major models, system structure and design. Previously offered as COMP 521.

Rules & Requirements
Requisites: Prerequisites, COMP 210, 211, and 301; or COMP 401, 410, and 411; a grade of C or better is required in all prerequisite courses.
Grading Status: Letter grade.

COMP 423. Foundations of Software Engineering. 3 Credits.
This course introduces students to the fundamentals of Software Engineering. Students gain experience with design thinking and processes, technical communication, team collaboration, project management methodology, the software development lifecycle, and more, with an emphasis on today's best industrial practices.

Rules & Requirements
IDEAs in Action Gen Ed: FC-CREATE.
Requisites: Prerequisites, C or better in both COMP 211 and COMP 301.
Grading Status: Letter grade.

COMP 426. Modern Web Programming. 3 Credits.
Developing applications for the World Wide Web including both client-side and server-side programming. Emphasis on Model-View-Controller architecture, AJAX, RESTful Web services, and database interaction.

Rules & Requirements
Requisites: Prerequisites, COMP 211 and 301; or COMP 401 and 410; a grade of C or better is required in all prerequisite courses.
Grading Status: Letter grade.

COMP 431. Internet Services and Protocols. 3 Credits.
Application-level protocols HTTP, SMTP, FTP, transport protocols TCP and UDP, and the network-level protocol IP. Internet architecture, naming, addressing, routing, and DNS. Sockets programming. Physical-layer technologies. Ethernet, ATM, and wireless.

Rules & Requirements
Requisites: Prerequisites, COMP 210, 211, and 301; or COMP 401, 410, and 411; a grade of C or better is required in all prerequisite courses.
Grading Status: Letter grade.

COMP 433. Mobile Computing Systems. 3 Credits.
Principles of mobile applications, mobile OS, mobile networks, and embedded sensor systems. Coursework includes programming assignments, reading from recent research literature, and a semester long project on a mobile computing platform (e.g., Android, Arduino, iOS, etc.).

Rules & Requirements
Requisites: Prerequisites, COMP 210, 211, and 301; or COMP 401, 410, and 411; a grade of C or better is required in all prerequisite courses.
Grading Status: Letter grade.

COMP 435. Computer Security Concepts. 3 Credits.
Introduction to topics in computer security including confidentiality, integrity, availability, authentication policies, basic cryptography and cryptographic protocols, ethics, and privacy. A student may not receive credit for this course after receiving credit for COMP 535.

Rules & Requirements
Requisites: Prerequisites, COMP 210, 211, and 301; or COMP 401, 410, and 411; a grade of C or better is required in all prerequisite courses.
Grading Status: Letter grade.

COMP 447. Quantum Computing. 3 Credits.
Recommended preparation, some knowledge of basic linear algebra. An introduction to quantum computing. Basic math and quantum mechanics necessary to understand the operation of quantum bits. Quantum gates, circuits, and algorithms, including Shor's algorithm for factoring and Grover's search algorithm. Entanglement and error correction. Quantum encryption, annealing, and simulation. Brief discussion of technologies.

Rules & Requirements
Requisites: Prerequisites, MATH 232, and PHYS 116 or 118.
Grading Status: Letter grade.
Same as: PHYS 447.

COMP 455. Models of Languages and Computation. 3 Credits.
Introduction to the theory of computation. Finite automata, regular languages, pushdown automata, context-free languages, and Turing machines. Undecidable problems.

Rules & Requirements
Requisites: Prerequisites, COMP 210 or 410 and COMP 283 or MATH 381 or STOR 315; a grade of C or better in all prerequisite courses is required.
Grading Status: Letter grade.

COMP 475. 2D Computer Graphics. 3 Credits.
Fundamentals of modern software 2D graphics; geometric primitives, scan conversion, clipping, transformations, compositing, texture sampling. Advanced topics may include gradients, antialiasing, filtering, parametric curves, and geometric stroking.

Rules & Requirements
Requisites: Prerequisites, COMP 210, 211, and 301; or COMP 401, 410, and 411; a grade of C or better is required in all prerequisite courses.
Grading Status: Letter grade.

COMP 486. Applications of Natural Language Processing. 3 Credits.
Natural language processing (NLP) uses mathematics, machine learning, linguistics, and computer science to make language computationally accessible and analyzable. In this course, you will learn to do essential NLP tasks using Python and survey a selection of NLP applications to describe the problems or tasks each addresses, the materials and methods used, and how the applications are evaluated. At least a semester of Python or equivalent practical experience is highly recommended.

Rules & Requirements
Grading Status: Letter grade.
Same as: INLS 512.

COMP 487. Information Retrieval. 3 Credits.
Study of information retrieval and question answering techniques, including document classification, retrieval and evaluation techniques, handling of large data collections, and the use of feedback.

Rules & Requirements
Grading Status: Letter grade.
Same as: INLS 509.

COMP 488. Data Science in the Business World. 3 Credits.
Business and Computer Science students join forces in this course to create data-driven business insights. We transgress the data science pipeline using cloud computing, artificial intelligence, and real-world datasets. Students acquire hands-on skills in acquiring data, wrangling vast unstructured data, building advanced models, and telling compelling stories with data that managers can understand.

Rules & Requirements
Grading Status: Letter grade.
Same as: BUSI 488.

COMP 495. Mentored Research in Computer Science. 3 Credits.
Independent research conducted under the direct mentorship of a computer science faculty member. If repeated, the repeated course can not be counted for the major. For computer science majors only. Permission of instructor required.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

COMP 496. Independent Study in Computer Science. 3 Credits.
Permission of the department. Computer science majors only. For advanced majors in computer science who wish to conduct an independent study or research project with a faculty supervisor. May be taken repeatedly for up to a total of six credit hours.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

COMP 520. Compilers. 3 Credits.
Design and construction of compilers. Theory and pragmatics of lexical, syntactic, and semantic analysis. Interpretation. Code generation for a modern architecture. Run-time environments. Includes a large compiler implementation project.

Rules & Requirements
Requisites: Prerequisites, COMP 301, 311, and 455 or COMP 410, 411, and 455; a grade of C or better is required in all prerequisite courses.
Grading Status: Letter grade.

COMP 523. Software Engineering Laboratory. 4 Credits.
Organization and scheduling of software engineering projects, structured programming, and design. Each team designs, codes, and debugs program components and synthesizes them into a tested, documented program product.

Rules & Requirements
IDEAs in Action Gen Ed: FC-CREATE.
Requisites: Prerequisites, COMP 301 and 311; or COMP 401, 410, and 411; as well as at least two chosen from COMP 421, 426, 431, 433, 520, 530, 535, 575, 580, 590.
Grading Status: Letter grade.

COMP 524. Programming Language Concepts. 3 Credits.
Concepts of high-level programming and their realization in specific languages. Data types, scope, control structures, procedural abstraction, classes, concurrency. Run-time implementation.

Rules & Requirements
Requisites: Prerequisite, COMP 301 or COMP 401; a grade of C or better is required in all prerequisite courses.
Grading Status: Letter grade.

COMP 530. Operating Systems. 3 Credits.
Types of operating systems. Concurrent programming. Management of storage, processes, devices. Scheduling, protection. Case study. Course includes a programming laboratory. Honors version available.

Rules & Requirements
Requisites: Prerequisites, COMP 301 and 311; or COMP 401, 410, and 411; a grade of C or better is required in all prerequisite courses.
Grading Status: Letter grade.

COMP 533. Distributed Systems and Concurrent Programming. 3 Credits.
Distributed systems, concurrent programming, and their goals; resource naming, synchronization of distributed processes; consistency and replication; fault tolerance; security and trust; distributed object-based systems; distributed file systems; distributed Web-based systems; and peer-to-peer systems.

Rules & Requirements
Requisites: Prerequisite, COMP 301; a grade of C or better is required.
Grading Status: Letter grade.

COMP 535. Introduction to Computer Security. 3 Credits.
Principles of securing the creation, storage, and transmission of data and ensuring its integrity, confidentiality and availability. Topics include access control, cryptography and cryptographic protocols, network security, and online privacy.

Rules & Requirements
Requisites: Prerequisites, COMP 301 and 311; or COMP 401, 410, and 411; as well as COMP 550, and COMP 283 or MATH 381 or STOR 315; a grade of C or better is required in all prerequisites.
Grading Status: Letter grade.

COMP 537. Cryptography. 3 Credits.
Introduces both the applied and theoretical sides of cryptography. Main focus will be on the inner workings of cryptographic primitives and how to use them correctly. Begins with standard cryptographic tools such as symmetric and public-key encryption, message authentication, key exchange, and digital signatures before moving on to more advanced topics. Potential advanced topics include elliptic curves, post-quantum cryptography, and zero-knowledge proofs. Honors version available.

Rules & Requirements
Requisites: Prerequisites, COMP 211 and COMP 301; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

COMP 541. Digital Logic and Computer Design. 4 Credits.
This course is an introduction to digital logic as well as the structure and electronic design of modern processors. Students will implement a working computer during the laboratory sessions.

Rules & Requirements
IDEAs in Action Gen Ed: FC-CREATE.
Requisites: Prerequisites, COMP 301 and 311; or COMP 401, 410, and 411; a grade of C or better is required in all prerequisite courses.
Grading Status: Letter grade.

COMP 545. Programming Intelligent Physical Systems. 3 Credits.
Introduction to programming embedded control systems that lie at the heart of robots, drones, and autonomous vehicles. Topics will include modeling physical systems, designing feedback controllers, timing analysis of embedded systems and software, software implementations of controllers on distributed embedded platforms and their verification. Honors version available.

Rules & Requirements
Requisites: Prerequisites, COMP 301 and COMP 311; or COMP 411; a C or better is required in all pre-requisites.
Grading Status: Letter grade.

COMP 550. Algorithms and Analysis. 3 Credits.
Formal specification and verification of programs. Techniques of algorithm analysis. Problem-solving paradigms. Survey of selected algorithms.

Rules & Requirements

IDEAs in Action Gen Ed: FC-QUANT.
Requisites: Prerequisites, COMP 211 and 301; or COMP 410; a grade of C or better is required in all prerequisite courses.
Grading Status: Letter grade.

COMP 555. Bioalgorithms. 3 Credits.
Bioinformatics algorithms. Topics include DNA restriction mapping, finding regulatory motifs, genome rearrangements, sequence alignments, gene prediction, graph algorithms, DNA sequencing, protein sequencing, combinatorial pattern matching, approximate pattern matching, clustering and evolution, tree construction, Hidden Markov Models, randomized algorithms.

Rules & Requirements
Requisites: Prerequisites, COMP 210, and 211; or COMP 401, and 410; and MATH 231, or 241; or BIOL 452; or MATH 553; or BIOL 525; a grade of C or better is required in all prerequisite courses.
Grading Status: Letter grade.
Same as: BCB 555.

COMP 560. Artificial Intelligence. 3 Credits.
Introduction to techniques and applications of modern artificial intelligence. Combinatorial search, probabilistic models and reasoning, and applications to natural language understanding, robotics, and computer vision.

Rules & Requirements
Requisites: Prerequisites, COMP 211 and 301; or COMP 401 and 410; as well as MATH 231; a grade of C or better is required in all prerequisite courses.
Grading Status: Letter grade.

COMP 562. Introduction to Machine Learning. 3 Credits.
Machine learning as applied to speech recognition, tracking, collaborative filtering, and recommendation systems. Classification, regression, support vector machines, hidden Markov models, principal component analysis, and deep learning. Honors version available.

Rules & Requirements
Requisites: Prerequisites, COMP 211 and 301; or COMP 401 and 410; as well as MATH 233, 347, and STOR 435 or STOR 535 or BIOS 650; a grade of C or better is required in all prerequisite courses; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

COMP 572. Computational Photography. 3 Credits.
The course provides a hands on introduction to techniques in computational photography--the process of digitally recording light and then performing computational manipulations on those measurements to produce an image or other representation. The course includes an introduction to relevant concepts in computer vision and computer graphics.

Rules & Requirements
Requisites: Prerequisites, COMP 301; or COMP 401 and 410; as well as MATH 347 or 577; a grade of C or better is required in all prerequisite courses.
Grading Status: Letter grade.

COMP 575. Introduction to Computer Graphics. 3 Credits.
Hardware, software, and algorithms for computer graphics. Scan conversion, 2-D and 3-D transformations, object hierarchies. Hidden surface removal, clipping, shading, and antialiasing. Not for graduate computer science credit.

Rules & Requirements
Requisites: Prerequisites, COMP 301 and 311; or COMP 401, 410 and 411; as well as MATH 347 or MATH 577; a grade of C or better is required in all prerequisite courses.
Grading Status: Letter grade.

COMP 576. Mathematics for Image Computing. 3 Credits.
Mathematics relevant to image processing and analysis using real image computing objectives and provided by computer implementations.

Rules & Requirements
Requisites: Prerequisites, COMP 116 or 210 or 401, and MATH 233; a grade of C or better is required in all prerequisites.
Grading Status: Letter grade.
Same as: BMME 576.

COMP 577. Introduction to Computer Vision. 3 Credits.
Fundamentals of Computer Vision and overview of recent research problems in Computer Vision. This course attempts to answer the following questions: (a) How do we capture and process an image? (b) How do we develop machine perception that recognizes, detects, and segments objects? (c) How do we connect the 3D world to 2D images and reconstruct 3D from images? We also explore some Computer Vision algorithms' potential to introduce bias and cause harm, particularly among members of underrepresented communities, and consider the ways in which we as researchers and practitioners can do better.

Rules & Requirements
Requisites: Pre- or corequisites, COMP 211, COMP 301, and MATH 347; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

COMP 581. Introduction to Robotics. 3 Credits.
Hands-on introduction to robotics with a focus on the computational aspects. Students will build and program mobile robots. Topics include kinematics, actuation, sensing, configuration spaces, control, and motion planning. Applications include industrial, mobile, personal, and medical robots. Honors version available.

Rules & Requirements
Requisites: Prerequisites, COMP 301 and 311; or COMP 401, 410, and 411; a grade of C or better is required in all prerequisite courses.
Grading Status: Letter grade.

COMP 586. Natural Language Processing. 3 Credits.
Through this course, students will develop an understanding of the general field of Natural Language Processing with an emphasis on state-of-the-art solutions for classic NLP problems. Topics include: text representation and classification, parts-of-speech tagging, parsing, translation, and language modeling.

Rules & Requirements
Requisites: Prerequisites, COMP 301, COMP 311, and COMP 562 or COMP 755 or STOR 565 or equivalent machine learning course; a grade of C or better is required in all prerequisite courses.
Grading Status: Letter grade.

COMP 590. Topics in Computer Science. 3 Credits.
This course has variable content and may be taken multiple times for credit. Different sections may be taken in the same semester. Honors version available.

Rules & Requirements
Requisites: Prerequisites, COMP 211 and COMP 301.
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

COMP 616. Information Visualization. 3 Credits.
Data is everywhere. Charts, graphs, and other types of information visualizations help people to make sense of data. This course explores the design, development, and evaluation of these visualizations. By combining aspects of design, computer graphics, HCI, and data science, you will gain hands-on experience with creating visualizations, using exploratory tools, and architecting data narratives. Topics include interactive systems, user-centered design, graphical perception and cognition, data storytelling, and insight building. Throughout this course, you will work directly with stakeholders to analyze data from a variety of domains and applications.

Rules & Requirements
Grading Status: Letter grade.

COMP 617. Visualization Design Methods. 3 Credits.
Data visualization combines computational, design, and cognitive principles to help people explore, communicate, and analyze large datasets. Developing effective visualizations often requires working closely with interdisciplinary teams to authentically reflect the needs of a data problem. This course will provide a hands-on introduction to common design methods for creating visualizations in different domains and problem constraints. Students will work with a variety of datasets to generate visualization solutions leveraging various design methodologies and media. Topics will include data sketching and crafting, user-centered design, task-driven design, cognitively-driven design, quantitative and qualitative experimental methods, and workshop methods.

Rules & Requirements
Grading Status: Letter grade.

COMP 630. Operating System Implementation. 3 Credits.
Students will learn how to write OS kernel code in C and a small amount of assembly. Students will implement major components of the OS kernel, such as page tables, scheduling, and program loading.

Rules & Requirements
Requisites: Prerequisite, COMP 530; a grade of B+ or better is required; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

COMP 631. Networked and Distributed Systems. 3 Credits.
Topics in designing global-scale computer networks (link layer, switching, IP, TCP, congestion control) and large-scale distributed systems (data centers, distributed hash tables, peer-to-peer infrastructures, name systems).

Rules & Requirements
Requisites: Prerequisites, COMP 431 and COMP 530; a grade of C or better is required in all prerequisite courses; Permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

COMP 633. Parallel and Distributed Computing. 3 Credits.
Required preparation, a first course in operating systems and a first course in algorithms (e.g., COMP 530 and 550). Principles and practices of parallel and distributed computing. Models of computation. Concurrent programming languages and systems. Architectures. Algorithms and applications. Practicum.

Rules & Requirements
Grading Status: Letter grade.

COMP 635. Wireless and Mobile Communications. 3 Credits.
This course builds an understanding of the core issues encountered in the design of wireless (vs. wired) networks. It also exposes students to fairly recent paradigms in wireless communication.

Rules & Requirements
Requisites: Prerequisite, COMP 431.
Grading Status: Letter grade.

COMP 636. Distributed Collaborative Systems. 3 Credits.
Design and implementation of distributed collaborative systems. Collaborative architectures, consistency of replicated objects, collaborative user-interfaces, application and system taxonomies, application-level multicast, performance, causality, operation transformation, and concurrency and access control.

Rules & Requirements
Requisites: Prerequisite, COMP 431 or 530; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

COMP 637. Formal Methods for System Security. 3 Credits.
Formal methods provide a rigorous, mathematically grounded analysis of a system. Used as part of a security analysis, formal methods can provide verification that a system meets its security requirements. In this course students will learn about and gain experience using a variety of techniques, including symbolic execution, model checking, and proofs of equivalence and refinement. Students will develop an understanding of different specification logics and what can and cannot be expressed in each. Topics include assertion-based verification, simulation relations, linear temporal logic, information flow analysis, and hyperproperties.

Rules & Requirements
Requisites: Prerequisites, Graduate status or undergraduate status with a C or better in COMP 311 and COMP 455.
Grading Status: Letter grade.

COMP 651. Computational Geometry. 3 Credits.
Required preparation, a first course in algorithms (e.g., COMP 550). Design and analysis of algorithms and data structures for geometric problems. Applications in graphics, CAD/CAM, robotics, GIS, and molecular biology.

Rules & Requirements
Requisites: Prerequisite, COMP 550.
Grading Status: Letter grade.

COMP 652. Logical Foundations of Program Correctness. 3 Credits.
This course is an upper-level undergraduate and graduate course about the use of mathematical proof techniques to verify the correctness of programs, algorithms and computer systems. The course will cover foundational concepts in logic, the theory of programming languages, and program verification. Students will learn about computer assisted theorem proving and will learn to use a proof assistant. Classes will be organized around problem sets and in-person lectures. In addition, students will work on a semester-long project developing a proof of correctness of a program or algorithms of their choosing.

Rules & Requirements
Requisites: Prerequisites, Graduate students or undergraduate with a C or higher in COMP 283, COMP 210, COMP 211, COMP 301, and COMP 455.
Grading Status: Letter grade.

COMP 662. Scientific Computation II. 3 Credits.
Theory and practical issues arising in linear algebra problems derived from physical applications, e.g., discretization of ODEs and PDEs. Linear systems, linear least squares, eigenvalue problems, singular value decomposition.

Rules & Requirements
Requisites: Prerequisite, MATH 661.
Grading Status: Letter grade.
Same as: MATH 662, ENVR 662.

COMP 664. Deep Learning. 3 Credits.
Introduction to the field of deep learning and its applications. Basics of building and optimizing neural networks, including model architectures and training schemes.

Rules & Requirements
Requisites: Prerequisites, COMP 562, COMP 755, or STOR 565 and MATH 201, 347, or 577 and MATH 233 or 522; permission of the instructor for student lacking the prerequisites.
Grading Status: Letter grade.

COMP 667. Video Analysis with Deep Learning. 3 Credits.
The course aims to provide a thorough overview of deep learning methods for video analysis. It will also teach students how to analyze and present research papers. Throughout the course, we will discuss fundamental video processing techniques, cover cutting edge research in video recognition and speculate about future research directions. Lastly, students will carry out a semester-long project, providing them with useful skills of how to work with video data and train various deep learning models on video datasets.

Rules & Requirements
Requisites: Prerequisite, COMP 560, COMP 562, STOR 565, COMP 664, COMP 755, or COMP 776.
Grading Status: Letter grade.

COMP 672. Simulation Modeling and Analysis. 3 Credits.
Introduces students to modeling, programming, and statistical analysis applicable to computer simulations. Emphasizes statistical analysis of simulation output for decision-making. Focuses on discrete-event simulations and discusses other simulation methodologies such as Monte Carlo and agent-based simulations. Students model, program, and run simulations using specialized software. Familiarity with computer programming recommended.

Rules & Requirements
Requisites: Prerequisites, STOR 555 and 641.
Grading Status: Letter grade.
Same as: STOR 672.

COMP 683. Computational Biology. 3 Credits.
Algorithms and data mining techniques used in modern biomedical data science and single-cell bioinformatics. Graph signal processing, graph diffusion, clustering, multimodal data integration.

Rules & Requirements
Requisites: Prerequisite, MATH 577 or MATH 347; COMP 562 or STOR 520 or STOR 565; grade of C or better is required in all prerequisite courses.
Grading Status: Letter grade.

COMP 690. Special Topics in Computer Science. 1-4 Credits.
This course has variable content and may be taken multiple times for credit. COMP 690 courses do not count toward the major or minor.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 8 total credits. 2 total completions.
Grading Status: Letter grade.

COMP 691H. Honors Thesis in Computer Science. 3 Credits.
For computer science majors only and by permission of the department. Individual student research for students pursuing an honors thesis in computer science under the supervision of a departmental faculty adviser.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

COMP 692H. Honors Thesis in Computer Science. 3 Credits.
Permission of the department. Required of all students in the honors program in computer science. The construction of a written honors thesis and an oral public presentation of the thesis are required.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

Graduate-level Courses

COMP 720. Compilers. 3 Credits.
Tools and techniques of compiler construction. Lexical, syntactic, and semantic analysis. Emphasis on code generation and optimization.

Rules & Requirements
Requisites: Prerequisites, COMP 455, 520, and 524.
Grading Status: Letter grade.

COMP 721. Database Management Systems. 3 Credits.
Database management systems, implementation, and theory. Query languages, query optimization, security, advanced physical storage methods and their analysis.

Rules & Requirements
Requisites: Prerequisites, COMP 521 and 550.
Grading Status: Letter grade.

COMP 723. Software Design and Implementation. 3 Credits.
Principles and practices of software engineering. Object-oriented and functional approaches. Formal specification, implementation, verification, and testing. Software design patterns. Practicum.

Rules & Requirements
Requisites: Prerequisites, COMP 524 and 550.
Grading Status: Letter grade.

COMP 724. Programming Languages. 3 Credits.
Selected topics in the design and implementation of modern programming languages. Formal semantics. Type theory. Inheritance. Design of virtual machines. Garbage collection. Principles of restructuring compilers.

Rules & Requirements
Requisites: Prerequisites, COMP 455, 520, and 524.
Grading Status: Letter grade.

COMP 730. Operating Systems. 3 Credits.
Theory, structuring, and design of operating systems. Sequential and cooperating processes. Single processor, multiprocessor, and distributed operating systems.

Rules & Requirements
Requisites: Prerequisite, COMP 530.
Grading Status: Letter grade.

COMP 734. Distributed Systems. 3 Credits.
Design and implementation of distributed computing systems and services. Inter-process communication and protocols, naming and name resolution, security and authentication, scalability, high availability, replication, transactions, group communications, distributed storage systems.

Rules & Requirements
Requisites: Prerequisite, COMP 431; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

COMP 735. Distributed and Concurrent Algorithms. 3 Credits.
Verification of concurrent systems. Synchronization; mutual exclusion and related problems, barriers, rendezvous, nonblocking algorithms. Fault tolerance: consensus, Byzantine agreement, self-stabilization. Broadcast algorithms. Termination and deadlock detection. Clock synchronization.

Rules & Requirements
Requisites: Prerequisites, COMP 530 and 550.
Grading Status: Letter grade.

COMP 737. Real-Time Systems. 3 Credits.
Taxonomy and evolution of real-time systems. Timing constraints. Design, implementation, and analysis of real-time systems. Theory of deterministic scheduling and resource allocation. Case studies and project.

Rules & Requirements
Requisites: Prerequisite, COMP 530.
Grading Status: Letter grade.

COMP 740. Computer Architecture and Implementation. 3 Credits.
Architecture and implementation of modern single-processor computer systems. Performance measurement. Instruction set design. Pipelining. Instruction-level parallelism. Memory hierarchy. I/O system. Floating-point arithmetic. Case studies. Practicum.

Rules & Requirements
Requisites: Prerequisites, COMP 411 and PHYS 352.
Grading Status: Letter grade.

COMP 750. Algorithm Analysis. 3 Credits.
Algorithm complexity. Lower bounds. The classes P, NP, PSPACE, and co-NP; hard and complete problems. Pseudo-polynomial time algorithms. Advanced data structures. Graph-theoretic, number-theoretic, probabilistic, and approximation algorithms.

Rules & Requirements
Requisites: Prerequisites, COMP 455 and 550.
Grading Status: Letter grade.

COMP 755. Machine Learning. 3 Credits.
Machine Learning methods are aimed at developing systems that learn from data. The course covers data representations suitable for learning, mathematical underpinnings of the learning methods and practical considerations in their implementations.

Rules & Requirements
Requisites: Prerequisites, MATH 347/547, or 577, and STOR 435; a grade of C or better is required in all prerequisite courses.
Grading Status: Letter grade.

COMP 763. Semantics and Program Correctness. 3 Credits.
Formal characterization of programs. Denotational semantics and fixed-point theories. Proof of program correctness and termination. Algebraic theories of abstract data types. Selected topics in the formalization of concurrent computation.

Rules & Requirements
Requisites: Prerequisite, COMP 724.
Grading Status: Letter grade.

COMP 766. Visual Solid Shape. 3 Credits.
3D differential geometry; local and global shape properties; visual aspects of surface shape. Taught largely through models and figures. Applicable to graphics, computer vision, human vision, and biology.

Rules & Requirements
Requisites: Prerequisites, MATH 233.
Grading Status: Letter grade.

COMP 770. Computer Graphics. 3 Credits.
Study of graphics hardware, software, and applications. Data structures, graphics, languages, curve surface and solid representations, mapping, ray tracing and radiosity.

Rules & Requirements
Requisites: Prerequisites, COMP 665 and 761.
Grading Status: Letter grade.

COMP 775. Image Processing and Analysis. 3 Credits.
Approaches to analysis of digital images. Scale geometry, statistical pattern recognition, optimization. Segmentation, registration, shape analysis. Applications, software tools.

Rules & Requirements
Requisites: Prerequisites, MATH 233, MATH 547/347, and STOR 435.
Grading Status: Letter grade.
Same as: BMME 775.

COMP 776. Computer Vision in our 3D World. 3 Credits.
Fundamental problems of computer vision. Projective geometry. Camera models, camera calibration. Shape from stereo, epipolar geometry. Photometric stereo. Optical flow, tracking, motion. Range finders, structured light. Object recognition.

Rules & Requirements
Requisites: Prerequisites, MATH 566, COMP 550, 665, and 775; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

COMP 777. Optimal Estimation in Image Analysis. 3 Credits.
Formulation and numerical solution of optimization problems in image analysis.

Rules & Requirements
Requisites: Prerequisites, MATH 233, MATH 347/547, and MATH 535 or STOR 435.
Grading Status: Letter grade.

COMP 781. Robotics. 3 Credits.
Introduction to the design, programming, and control of robotic systems. Topics include kinematics, dynamics, sensing, actuation, control, robot learning, tele-operation, and motion planning. Applications will be discussed including industrial, mobile, assistive, personal, and medical robots.

Rules & Requirements
Requisites: Prerequisites, COMP 550 and MATH 347/547; Permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

COMP 782. Motion Planning in Physical and Virtual Worlds. 3 Credits.
Topics include path planning for autonomous agents, sensor-based planning, localization and mapping, navigation, learning from demonstration, motion planning with dynamic constraints, and planning motion of deformable bodies. Applications to robots and characters in physical and virtual worlds will be discussed.

Rules & Requirements
Requisites: Prerequisite, COMP 550; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

COMP 786. Natural Language Processing. 3 Credits.
Artificial intelligence and machine learning field to build automatic models that can analyze, understand, and generate text. Topics include syntactic parsing, co-reference resolution, semantic parsing, question answering, document summarization, machine translation, dialogue models, and multi-modality.

Rules & Requirements
Requisites: Prerequisite, COMP 562.
Grading Status: Letter grade.

COMP 790. Topics in Computer Science. 3 Credits.
Permission of the instructor. This course has variable content and may be taken multiple times for credit.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

COMP 822. Topics in Discrete Optimization. 3 Credits.
Topics may include polynomial algorithms, computational complexity, matching and matroid problems, and the traveling salesman problem.

Rules & Requirements
Requisites: Prerequisite, STOR 712; Permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Same as: STOR 822.

COMP 832. Multimedia Networking. 3 Credits.
Audio/video coding and compression techniques and standards. Media streaming and adaptation. Multicast routing, congestion, and error control. Internet protocols RSVP, RTP/RTCP. Integrated and differentiated services architecture for the Internet.

Rules & Requirements
Requisites: Prerequisites, COMP 431 and 530.
Grading Status: Letter grade.

COMP 872. Exploring Virtual Worlds. 3 Credits.
Project course, lecture, and seminar on real-time interactive 3D graphics systems in which the user is 'immersed' in and interacts with a simulated 3D environment. Hardware, modeling, applications, multi-user systems.

Rules & Requirements
Requisites: Prerequisite, COMP 870.
Grading Status: Letter grade.

COMP 875. Recent Advances in Image Analysis. 3 Credits.
Lecture and seminar on recent advances in image segmentation, registration, pattern recognition, display, restoration, and enhancement.

Rules & Requirements
Requisites: Prerequisite, COMP 775.
Grading Status: Letter grade.

COMP 892. Practicum. 0.5 Credits.
Permission of the instructor. Work experience in an area of computer science relevant to the student's research interests and pre-approved by the instructor. The grade, pass or fail only, will depend on a written report by the student and on a written evaluation by the employer.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

COMP 910. Computer Science Module. 0.5-21 Credits.
A variable-credit module course that can be used to configure a registration for a portion of a class.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

COMP 915. Technical Communication in Computer Science. 3 Credits.
This course for doctoral students covers aspects of written and oral technical communication in computer science, including public speaking, writing, posters, and social networking. The course frames all communication as a teaching exercise, and includes a short lesson and peer critiques of the lesson. The course also introduces students to the business and administrative aspects of building a teaching or research career, as well as how to navigate common interpersonal and organizational challenges in research.

Rules & Requirements
Grading Status: Letter grade.

COMP 990. Research Seminar in Computer Science. 1-21 Credits.
Permission of the instructor. Seminars in various topics offered by members of the faculty.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

COMP 991. Reading and Research. 1-21 Credits.
Permission of the instructor. Directed reading and research in selected advanced topics.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

COMP 992. Master's (Non-Thesis). 3 Credits.
Permission of the department.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.

COMP 993. Master's Research and Thesis. 3 Credits.
Permission of the department.

Rules & Requirements
Repeat Rules: May be repeated for credit.

COMP 994. Doctoral Research and Dissertation. 3 Credits.
Permission of the department.

Rules & Requirements
Repeat Rules: May be repeated for credit.

Contact Information

Department of Computer Science
Visit Program Website (http://www.cs.unc.edu)

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SCHOOL OF DATA SCIENCE AND SOCIETY (GRAD)

The School of Data Science and Society (SDSS) is devoted to data science teaching, research, and service. Our vision is to lead by shaping the emerging field of data science with a human-centric approach to the entire data life cycle. SDSS envisions a world made healthy, safe, and prosperous for all through data-informed decisions.

The SDSS will empower a diverse community of faculty conducting research in the fundamentals and/or applications of data science. The school will train undergraduate, graduate, and professional students to be the next generation of data science leaders with the knowledge and skills to thrive in this data-driven world. The SDSS will serve the state, the nation, and society with premier data science educational programs and collaborative research directed to advance the public good.

The School of Data Science and Society website (https://datascience.unc.edu/) has additional information for prospective students.

Master of Applied Data Science Program (MADS)

The online Master of Applied Data Science (MADS) program is offered by the School of Data Science and Society, in collaboration with the School of Information and Library Science, the Department of Biostatistics in the Gillings School of Global Public Health, and the departments of computer science, mathematics, and statistics and operations research in the College of Arts and Sciences.

The program is delivered through interactive, live online classes; asynchronous lessons; in-person immersions; and a real-world, team-based capstone project. The program provides recent graduates and working professionals with a comprehensive understanding of the data life cycle; technical expertise in areas such as programming and machine learning; and opportunities to connect with industry professionals in North Carolina and beyond. Students will graduate prepared to identify and tell a story through data; work collaboratively to apply data-driven insights; and directly impact lives in their workplaces and communities.

***All MADS courses are listed as DATA 700's except for DATA 992 Capstone.

To view the full list of MADS faculty members, please visit the School of Data Science and Society Web site (https://datascience.unc.edu/mads-faculty/).

Professors

David Adalsteinsson
Ashok Krishnamurthy
Arcot Rajasekar

Associate Professors

Junier Oliva
Santiago Olivella
Danielle Szafir
Francesca Tripodi

Assistant Professors

Emily Pfaff
Shashank Srivastava

Teaching Assistant Professor

Rei Sanchez-Arias

Adjunct Professor

Chuck Pepe-Ranney

Professor of the Practice

Richard Marks

Graduate-Level Courses

DATA 710. Introduction to Applied Data Science. 3 Credits.
The first part of this course introduces various stages of the data life cycle, from defining data requirements to data creation and gathering to data fusion and data preparation to data cleaning and quality control to exploratory analytics, data interpretation, and visualization. We will explore FAIR data principles of curation, metadata, and digital preservation policies. The second part will introduce the concept of relational databases that provide storage and management for structured data.

Rules & Requirements
Grading Status: Letter grade.

DATA 715. Advanced Databases for Data Science. 3 Credits.
This course will explore intermediate-level design and implementation of database systems, emphasizing scalable, distributed systems. It will deepen students' knowledge of advanced relational database management and discuss current and emerging practices for dealing with big data and large-scale database systems. Concepts include design and implementation of relational databases, exploration of distributed data structures including graph, document, and key-value storage models and scalable and resilient query processing.

Rules & Requirements
Requisites: Prerequisite, DATA 710.
Grading Status: Letter grade.

DATA 720. Programming Methods for Data Science. 3 Credits.
This course will provide students with advanced concepts on the construction and use of data structures and their associated algorithms. Concepts covered in this course will include: abstract data types, lists, stacks, queues, trees, and graphs; sorting, searching, hashing, and an introduction to numerical error control; techniques of algorithm analysis and problem-solving paradigms using relevant programming languages and tools.

Rules & Requirements
Grading Status: Letter grade.

DATA 730. Statistical Modeling and Inference for Data Science. 3 Credits.
The course will be coding-oriented and cover concepts such as foundations in probability, including basic rules, Bayes' theorem, and basic distributions; sampling and the central limit theorem; bootstrapping, confidence intervals, hypothesis testing, and multiple testing; linear models, basic and multiple regression, inference for regression, regularization; classification, logistic regression, and tree-based methods; and prediction, model interpretation, and model evaluation.

Rules & Requirements
Grading Status: Letter grade.

DATA 740. Governance, Bias, and Ethics in Data Science and Artificial Intelligence. 3 Credits.
We will explore the foundational concepts of ethics in data science and AI. This overview will set the stage for a deep understanding of what ethical frameworks mean in practice, providing students the opportunity to create actionable examples. By focusing on a wide variety of case studies throughout a myriad of industries and settings, this class will develop leaders who can effectively integrate and leverage data science solutions while ensuring responsible use of data.

Rules & Requirements
Requisites: Prerequisite, DATA 710.
Grading Status: Letter grade.

DATA 750. Mathematical Tools for Data Science. 3 Credits.
This course will present the mathematical intuition, theory, and techniques driving the numerical computation methods used for processing and analyzing data in various real-life problems. Topics include dimensionality reduction; linear and non-linear approximation; frequency and wavelet analysis; and a glimpse into the mathematics of deep neural networks, classification, large-scale and high-performance numerical computing, and visualization.

Rules & Requirements
Requisites: Prerequisite, DATA 710.
Grading Status: Letter grade.

DATA 760. Visualization and Communication in Data Science. 3 Credits.
This course will provide students with a foundational understanding of visual perceptional and data visualization design practices, provide instruction on using visualization for tasks such as exploratory analysis and storytelling to support both data-driven discovery and communication. The class will focus hands-on experiences with commonly used data science tools and technologies.

Rules & Requirements
Requisites: Prerequisite, DATA 710.
Grading Status: Letter grade.

DATA 766. Leading Research Teams. 3 Credits.
Graduate students will lead groups of four to five undergraduate students to complete a project for an external client. Clients from an array of industries, as well as those from within UNC, will submit project requests that are feasible within a 12-week semester. The course will offer graduate students an authentic learning experience to develop management skills and professional attributes, such as teamwork, communication, and project management, in preparation for workforce entry.

Rules & Requirements
Requisites: Prerequisites, STOR 664, STOR 665 and STOR 765, or Instructor's Permission.
Grading Status: Letter grade.
Same as: STOR 766.

DATA 780. Machine Learning. 3 Credits.
This course will be an introductory course to machine learning (ML). The course will cover core principles of artificial intelligence for statistical inference and pattern analysis. Topics will include probability distributions; graphical models; optimization, maximum likelihood estimation, and regression; classification; cross validation; generalization and overfitting; neural networks; nonparametric estimators; clustering; autoencoders; generative models; and kernel methods. Applications in tabular, image, and textual data for supervised and unsupervised learning tasks also will be covered.

Rules & Requirements
Requisites: Prerequisites, DATA 710, DATA 720, and DATA 730.
Grading Status: Letter grade.

DATA 785. Deep Learning. 3 Credits.
Deep learning fundamentals and applications with emphasis on their broad applicability to problems across a range of disciplines. Topics include regularization, optimization, convolutional networks, sequence modeling, generative learning, instance-based learning, and deep reinforcement learning. Students will complete several substantive programming assignments in PyTorch and Keras.

Rules & Requirements
Requisites: Prerequisites, DATA 720, DATA 730, and DATA 780.
Grading Status: Letter grade.

DATA 890. Special Topics in Data Science. 3 Credits.
The course goal is to expose graduate students in any UNC department to a broad range of topics in the theory and applications of data science. Students will learn about current and emerging methods and techniques in data science to advance individual research efforts and facilitate inter-disciplinary collaboration. Open to graduate students only and by permission only.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 9 total credits. 3 total completions.
Grading Status: Letter grade.

DATA 992. Master's (Non-Thesis). 3 Credits.
Team based project in final term of program.

Rules & Requirements
Requisites: Prerequisites, DATA 710, DATA 715, DATA 720, DATA 730, DATA 750, and DATA 780.
Repeat Rules: May be repeated for credit.

DATA 993. Master's Research and Thesis. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

DATA 994. Doctoral Research and Dissertation. 3 Credits.

Contact Information

Program Director
Emma Dehne
emma.dehne@unc.edu

UNC ADAMS SCHOOL OF DENTISTRY (GRAD)

Graduate instruction in the UNC Adams School of Dentistry is offered in dental hygiene education, endodontics, operative dentistry and biomaterials, oral epidemiology, oral and maxillofacial pathology, oral and maxillofacial radiology, oral and maxillofacial surgery, orthodontics, pediatric dentistry, periodontology, and prosthodontics, as well as in oral and craniofacial biomedicine.

The specialty practice programs — endodontics, operative dentistry and biomaterials, oral and maxillofacial pathology, oral and maxillofacial radiology, orthodontics, pediatric dentistry, periodontology, and prosthodontics — are dual-specialty certificate and master of science degree programs. Commission on Dental Accreditation of the American Dental Association (CODA) and the respective specialty boards for the approved CODA specialties prescribes the minimum requirements for the certificate. The master of science degree is conferred by the University of North Carolina at Chapel Hill Graduate School and requires the successful completion of required coursework, oral or written comprehensive examinations, a research project, and a thesis. Graduates who possess an appropriate degree and who meet the requirements of the UNC Graduate School are considered for admission. Enrollment requires approximately three years of residency. The curricula have been designed to permit maximum flexibility in preparation for practice, teaching, and research, and to meet the educational requirements of the specialty boards.

Other advanced education programs available within the UNC Adams School of Dentistry include dental hygiene education, oral and craniofacial biomedicine, oral epidemiology, and oral and maxillofacial surgery. The oral and craniofacial biomedicine and oral epidemiology programs lead to the doctoral degree (Ph.D.) and require four or more years to complete. The dental hygiene education program spans two years and is a master of science program designed to prepare dental hygienists for teaching, research, or corporate employment. The oral and maxillofacial surgery program is a six-year dual-degree (M.D.) program with a certificate in oral and maxillofacial surgery.

Information regarding admission, entrance requirements, and/or curricula of a specific advanced education program may be obtained online (https://dentistry.unc.edu/advanced-dental-education/).

Tuition and Fees

Tuition and fees for the UNC Graduate School programs are subject to change at any meeting of the University of North Carolina at Chapel Hill Board of Trustees, and an increase should be anticipated each year. Tuition and fees apply for all years of study and training. Current tuition and fees for in-state and nonresidents may be obtained online (https://cashier.unc.edu/tuition-fees/). Required instruments, books, computers, and laboratory fees are determined by each program. Tuition and fees are due at the time of registration.

Student loans are available on the same basis as for undergraduates. Additional information is available online (https://studentaid.unc.edu/incoming/what-aid-is-available/loans/).

Oral and Craniofacial Biomedicine

Oral and craniofacial biomedicine is a highly translational, multidisciplinary program of study that focuses on the growth, development, and pathologies of the craniofacial complex and associated physiological structures, as well as the study of disease and healing mechanisms related to these structures.

The discipline of oral and craniofacial biomedicine applies and extends the concepts of immunology, embryology, physiology, cellular and molecular biology, pharmacology, microbiology, and biochemistry to understanding the growth and development and pathologies associated with the craniofacial complex and oral cavity. Expertise and authority in the concepts of host-pathogen interactions, skeletal biology and extracellular matrices, and cancer are well represented within the program and by the qualifications of program faculty located in numerous UNC–Chapel Hill programs and departments, including the UNC Adams School of Dentistry, School of Medicine, Lineberger Comprehensive Cancer Center, the Center for Cystic Fibrosis, and the Center for AIDS Research.

Attention in dental research and practice is now focusing on the dynamics of oral disease and prevention and treatment at the earliest stages of development, including research on risk factors for disease as well as the cellular and molecular events in disease pathogenesis. Molecular approaches for oral disease analysis and the complexity of disease elements require advanced training in the discipline of oral and craniofacial biomedicine. Modern biomedical research is also identifying systemic relationships between oral conditions, health status, and diseases such as atherosclerosis, HIV, and cancer. The oral cavity also offers an ideal model to study biological structures and cellular mechanisms important throughout the body and important in immune response.

Curricular requirements are based on training areas, with common core requirements for all students. Research interests and qualifications will also determine course requirements. Research is a key element of the program, and students start laboratory rotations during their first semester to allow maximum time for research involvement.

For additional information, consult the UNC Adams School of Dentistry's website (http://www.dentistry.unc.edu) or write to the Graduate Program Manager, Oral and Craniofacial Biomedicine Ph.D. Program, UNC Adams School of Dentistry, 3100 First Dental Building, The University of North Carolina at Chapel Hill, Chapel Hill, NC 27599-7455. Telephone: (919) 537-3230.

Research Facilities

The oral and craniofacial biomedicine graduate program is in the UNC Adams School of Dentistry. The central base for much of the basic science research in the curriculum is in the Koury Oral Health Sciences Building, with its access to SEM/TEM microscopy, tissue culture facilities, anaerobic microbiology support, ALAC-accredited animal facilities, computers, and software for image analyses/enhancement and finite element analyses, and a clinical research unit that includes an eight-patient operatory. Biostatistical assistance is readily available as well as medical illustration, photography, radiology, and grants management.

Financial Aid

Graduate research assistantships are awarded competitively for students accepted into the oral and craniofacial biomedicine Ph.D. program. These competitive assistantships with health insurance provide support through program resources during the first year and may include a special tuition rate for out-of-state students. Support for dissertation research, beginning in the student's second year, is generally made available by faculty mentors. Students are eligible for financial aid through the UNC Office of Scholarships and Student Aid. International

students are encouraged to contact International Student and Scholar Services for resource contacts if financial aid is needed.

Oral Epidemiology

The University of North Carolina at Chapel Hill offers a program leading to a Ph.D. degree in epidemiology under the cooperative auspices of the Adams School of Dentistry and the Gillings School of Global Public Health's Department of Epidemiology and Department of Health Policy and Management. The nationally recognized Department of Epidemiology at the Gillings School of Global Public Health has a well-established doctoral program, and oral epidemiology has been taught as part of the program in dental public health for many years. The integration of the wealth of resources in these three departments makes this program unique.

The goal of the oral epidemiology program is to teach students to identify, analyze, and predict changes in oral diseases and conditions. These conditions include dental caries, oral cancer, oral mucosal lesions, periodontal diseases, craniofacial and dentofacial anomalies, and systemic diseases that affect and are affected by oral health. Degree recipients have the academic foundation, advanced knowledge, and skills needed to conduct, interpret, and evaluate sophisticated epidemiologic investigations and clinical research projects.

Information, including advice regarding applying, can be found at the program's website (http://www.sph.unc.edu/epid/).

Endodontics

The Endodontics program is a three-year program leading to a certificate in endodontics and a master of science degree. The program is designed to prepare candidates for careers in academics, research, or the clinical practice of endodontics, and for certification by the American Board of Endodontics.

The endodontics graduate program involves an integrated study of biological sciences as they pertain to endodontics, development of the clinical skills required in the broad area of the endodontic specialty, review of classic and current literature in endodontics, teaching experience, research design and methodology, and the development and completion of a research project.

Oral and Maxillofacial Pathology

The oral and maxillofacial pathology program is a three-year program that awards a certificate in oral and maxillofacial pathology and a master of science degree. The program prepares qualified oral and maxillofacial pathology specialists for positions of responsibility in institutions of higher dental education or research or in private practice. Students develop competence in surgical oral pathology, acquire skills in the clinical management of patients with disorders of the head and neck, gain experience in pathology laboratory management, and develop teaching and research skills for enhancement of an academic career. Upon completion of the necessary requirements each student is eligible for fellowship in the American Academy of Oral and Maxillofacial Pathology and certification by the American Board of Oral and Maxillofacial Pathology.

Oral and Maxillofacial Radiology

The oral and maxillofacial radiology program is a three-year program that awards a certificate in oral and maxillofacial radiology and a Master of Science degree. The primary goal of the program is to prepare specialists to practice clinical oral and maxillofacial radiology; to provide patient care, teach, and conduct research in an oral health care institution; or to provide patient care in the private practice setting.

The program includes training in radiological sciences (radiological physics, radiation biology, radiation protection, imaging science), clinical sciences (intraoral, extraoral, and cone beam CT imaging; radiographic interpretation of conditions affecting the oral and maxillofacial region), medical sciences (oral and maxillofacial pathology, head and neck anatomy), and research sciences (research design and biostatistics). Each graduate student develops an original research project as an integral part of the graduate program. The program meets the eligibility requirements of the American Board of Oral and Maxillofacial Radiology.

Operative Dentistry and Biomaterials

The operative dentistry and biomaterials program is a three-year program that awards a certificate in operative dentistry and a master of science degree. The primary goal of the program is to prepare graduates for careers in dental education and research. The program involves component areas of research, teaching, and patient care. The curriculum includes general core courses, including topics in basic and clinical sciences; a research component, including courses on research design and statistical methods; a clinical component in contemporary operative dentistry; and experiences in preclinical and clinical teaching. Each graduate student develops an original research project as an integral part of the graduate program.

Orthodontics

The orthodontic program provides a combination of clinical experience in orthodontics and critical thinking and research experience, which leads to a certificate in orthodontics and a master of science degree conferred by the UNC Graduate School. Students in the orthodontic program are required to demonstrate clinical and professional proficiency as well as to complete the didactic and research components of the degree prior to graduating. During the program's first year students participate in core courses, attend didactic and clinical seminars, and begin patient care. As the program progresses, didactic seminars gradually yield to research participation, while clinical seminars continue, and the volume of patient care increases. All students must perform satisfactorily on oral and written comprehensive examinations to complete the program successfully.

The orthodontics program offers a 33-month curriculum. Six residents are admitted to begin the program each August. By the second or third year of the program, students are educationally qualified to take the written portion of the American Board of Orthodontics. Successful completion of a research project is required to earn a certificate in orthodontics as well as a master of science degree.

Pediatric Dentistry

The graduate program in pediatric dentistry leads to a clinical certificate in pediatric dentistry and a master of science, master of public health, or Ph.D. degree awarded by the UNC Graduate School. The minimum program length is 36 months, beginning on July 1 of each year. The program's goal is to prepare the student for a career in academic research, dental education, clinical practice, or public health. Emphasis is placed on developing leadership skills and training advocates for children's health. For interested students, this program can be combined with other educational programs in the social sciences, basic sciences, or allied health professions that lead to an additional master's degree, postdoctoral fellowship, or a doctoral degree.

During the first year each student completes courses in research design and statistics; a protocol for the research project is completed in conjunction with the coursework. This project develops a student's skill set in the scientific method and scientific writing. During the second year data are collected, and during the third year the thesis is written and defended. Under the direction of leaders in many fields, research opportunities are available in a range of topics and can be undertaken in the UNC Adams School of Dentistry, at a facility in nearby Research Triangle Park, or at any of several neighboring institutions of higher learning. Numerous projects have received national acclaim and garnered publication in dental literature. Hospital training is conducted through UNC Health. Graduate students are active members of the program's teaching team during all years. Development of leadership skills in the health profession is supported by externships at the local, state, and national levels. The program meets the eligibility requirements of the American Board of Pediatric Dentistry.

Periodontology

The periodontology program is designed to prepare dentists to enter the clinical practice of periodontics or to work in academics and research. The program consists of a 36-month course of study leading to a certificate in periodontics and a master of science degree conferred by the UNC Graduate School. Alternative degree programs include a master of public health and a Ph.D. in oral and craniofacial biomedicine. The curriculum is devoted to the study of biological concepts and literature that encompass the prevention, diagnosis, and treatment of diseases of the supporting and surrounding tissues of the teeth or their substitutes, and the maintenance of the health, function, and esthetics of these structures and tissues. Clinical acquisition of skills in periodontology and implantology is a primary focus of the program. Resident experiences include patient care, teaching, and research. Elective courses relating to areas of research interests are available. The program meets the eligibility requirements of the American Board of Periodontology.

Prosthodontics

The prosthodontics program is a 36-month course of study in fixed and removable prosthodontics, dental implant prosthodontics, and maxillofacial prosthetics, leading to a certificate in prosthodontics and a master of science degree conferred by the UNC Graduate School. The primary goals of the program are to prepare a student for clinical practice and/or a teaching and research career. The curriculum offers a broad educational experience in clinical, research, didactic, and teaching activities. The program satisfies the formal training requirements for certification by the American Board of Prosthodontics.

Dental Hygiene Education

The primary objective of the dental hygiene education program is to prepare exceptional educators for allied dental education programs. Objectives of the graduate program are to provide the student with advanced knowledge in dental hygiene education to assume positions in teaching, administration, research, and management. The curriculum emphasizes advanced knowledge and skill development in several areas including education, leadership, administration, public health, interprofessional education, and research related to allied dental education and practice. The curriculum is interdisciplinary in that courses are taken in the Adams School of Dentistry, Gillings School of Global Public Health, School of Nursing, and School of Education. Upon the successful completion of this program, the student should have

1. Acquired advanced knowledge and skills in one of the following tracks: interprofessional education, public health, dental management/administration, biological sciences, oral pathology, or clinical education
2. Developed the knowledge, skills, and attitudes necessary in the conduct of dental hygiene programs
3. Acquired the ability to teach courses in more than one dental hygiene field, and
4. Defined their own problems from the present body of knowledge in dental and dental hygiene education, solved those problems, and presented their work in a scholarly fashion

Course requirements vary and are based on the individual background of the student and on the track selected by the student. Available tracks include interprofessionsal education, public health, clinical education, dental management/administration, biological sciences, and oral pathology. Thirty-six credit hours are required for the master of science degree. The length of the program is approximately two years.

Admissions

Oral and Craniofacial Biomedicine

There are two pathways for admission to the Curriculum in Oral and Craniofacial Biomedicine:

1. Direct application to oral and craniofacial biomedicine for individuals (domestic or international) with a doctoral or biomedical professional degree, including doctor of dental surgery (D.D.S.), doctor of dental medicine (D.M.D.), doctor of medicine (M.D.) or equivalent, should apply directly to the program through the UNC Graduate School's admissions Web site (http://gradschool.unc.edu/admissions/).
2. Application through the Biological and Biomedical Sciences Program for individuals (domestic or international) *without* an advanced professional biomedical degree must apply through the Biological and Biomedical Sciences Program (BBSP (http://bbsp.unc.edu/)).

Endodontics

Application to the endodontics program requires submission of the required transcripts and documentation to the Postdoctoral Application Support Service (PASS). Application deadlines to PASS for the following year's class can be found on the PASS Web site (https://www.adea.org/home/application-services/apply-to-advanced-programs/adea-pass-applicants/). A personal interview is required for admission. After review by the program, successful applicants will be recommended to the UNC Graduate School. Admission to the UNC Graduate School is granted only after the department reviews and approves the application, transcripts, or prior academic work, letters of reference, and other credentials. The number of admitted students is limited to three each year. Stipends are available, depending upon available resources.

Oral and Maxillofacial Pathology

Applications for admission to the program should be submitted online through the UNC Graduate School's admissions Web site (https://gradschool.unc.edu/admissions/). As part of the UNC Graduate School application, applicants must upload a curriculum vitae, three letters of recommendation, and a statement of purpose which outlines motivations, experience and professional goals. National Dental Board Scores should be uploaded as a supplement document if available. Applicants must also upload unofficial transcripts. Official transcripts should not be sent to the program or the UNC Graduate School until requested to do so. Applicants must possess a D.D.S., D.M.D., or equivalent degree. Stipends are available, depending upon available resources.

Oral and Maxillofacial Radiology

Applications for admission to the program should be submitted online through the UNC Graduate School's admissions Web site (https://gradschool.unc.edu/admissions/). As part of the UNC Graduate School application, applicants must upload a curriculum vitae, three letters of recommendation, and a statement of purpose which outlines motivations, experience and professional goals. National Dental Board Scores should be uploaded as a supplement document if available. Applicants must also upload unofficial transcripts. Official transcripts should not be sent to the program or the UNC Graduate School until requested to do so. Applicants must possess a D.D.S., D.M.D., or equivalent degree. Stipends are available, depending upon available resources.

Operative Dentistry and Biomaterials

Application to the operative dentistry and biomaterials program requires submission of the required transcripts and documentation to the Postdoctoral Application Support Service (PASS). Application deadlines to PASS for the following year's class can be found on the PASS Web site (https://www.adea.org/home/application-services/apply-to-advanced-programs/adea-pass-applicants/). A personal interview is required for admission. After review by the program, successful applicants will be recommended to the UNC Graduate School. Applications for admission to the program should be submitted online through the UNC Graduate School's admissions Web site (https://gradschool.unc.edu/admissions/). Admission to the UNC Graduate School is granted only after the department reviews and approves the application, transcripts, or prior academic work, letters of reference, and other credentials. The number of admitted students is limited to three each year. Stipends are available, depending upon available resources.

Orthodontics

Application to the orthodontics program requires submission of the required transcripts and documentation to the Postdoctoral Application Support Service (PASS). Application deadlines to PASS for the following fall class are available on the PASS website (https://www.adea.org/home/application-services/apply-to-advanced-programs/adea-pass-applicants/). All candidates must register with the Postdoctoral Dental Matching program (http://www.natmatch.com/dentres/). A personal, on-site interview is required for admission, and interviews are made by invitation of the program after its review of applications. Interviews are usually held in late October or early November. Once a student has been accepted through the Matching program, the student must apply to the UNC Graduate School to complete the requisite courses to earn a master's degree. Applications for admission to the UNC Graduate School must be submitted online through The Graduate School's admissions Web site (http://gradschool.unc.edu/admissions/). Stipends are available, depending upon available resources.

Pediatric Dentistry

The pediatric dentistry program requires application through both the centralized application and matching services: Submission of the required transcripts and documentation is made to the Postdoctoral Application Support Service (PASS). Application deadlines to PASS for the following summer class are available on the PASS Web site (https://www.adea.org/home/application-services/apply-to-advanced-programs/adea-pass-applicants/). All candidates must register with the Postdoctoral Dental Matching program (http://www.natmatch.com/dentres/). A personal interview is required, and interviews are made by invitation of the department after applications have been reviewed. Once a student has been accepted through the Match program, the student must apply to the UNC Graduate School. Applications for admission to the UNC Graduate School must be submitted online through the UNC Graduate School's admissions Web site (http://gradschool.unc.edu/admissions/). Stipends are available, depending upon available resources.

Periodontology

All applications for the periodontology program, as well as transcripts and letters of reference, should be submitted through the Postdoctoral Application Support Service (PASS). Application deadlines to PASS for the following summer cohort are available on the PASS Web site (https://www.adea.org/home/application-services/apply-to-advanced-programs/adea-pass-applicants/). All candidates must register with the Postdoctoral Dental Matching program (http://www.natmatch.com/dentres/). A personal interview is required for admission. Once a student has been accepted through the Match program, applicants will be informed of their eligibility to apply to the UNC Graduate School. Admission to the UNC Graduate School is granted only after the department reviews and approves the application, transcripts of prior academic work, letters of reference, and other credentials. Applications for admission to the UNC Graduate School must be submitted online through the UNC Graduate School's admissions Web site (http://gradschool.unc.edu/admissions/). The number of students is limited to three each year. Stipends are available, depending upon available resources.

Prosthodontics

All applications for the prosthodontics program, as well as transcripts and letters of reference, should be submitted through the Postdoctoral Application Support Service (PASS). Application deadlines to PASS for the following summer cohort are available on the PASS Web site (https://www.adea.org/home/application-services/apply-to-advanced-programs/adea-pass-applicants/). All candidates must register with the Postdoctoral Dental Matching program (http://www.natmatch.com/dentres/). A personal interview is required for admission. Once a student has been accepted through the Match program, the admission policy for the master of science in prosthodontics program follows the regular requirements for admission to the UNC Graduate School. Admission to the UNC Graduate School is granted only after the application, transcript of prior academic work, letters of reference, and other credentials are reviewed and approved by the program's admissions committee. Applications for admission to the UNC Graduate School must be submitted online through the UNC Graduate School's admissions Web site (http://gradschool.unc.edu/admissions/). Stipends are available, depending upon available resources.

Dental Hygiene Education

Minimum admissions requirements for the program in dental hygiene education include current licensure, a bachelor's degree from an accredited institution, and graduation from a dental hygiene program accredited by the Commission on Dental Accreditation of the American Dental Association. Exceptions to this requirement include graduation from an international Bachelor of Science program in dental hygiene, where CODA accreditation is not possible. Previous work experience in dental hygiene education or dental hygiene practice is strongly recommended.

Applicants must have a grade point average of B or better in the professional undergraduate curriculum. Three letters of recommendation are required, as well as an admissions questionnaire by the applicant. The course of study begins in August of each year. Applications for admission to the UNC Graduate School must be submitted online through the UNC Graduate School's admissions Web site (http://

gradschool.unc.edu/admissions/). Stipends are available, depending upon available resources.

Jean Pierre Albouy, Prosthodontics
Lilian Berridi-Garcia, Prosthodontics
George H. Blakey, Oral and Maxillofacial Surgery
Jennifer Brame, Dental Hygiene
Zachary Brian, Public Health
Angela Broome, Oral Radiology
Scott Cashion, Pediatric Dentistry
Li Chen, Oral Radiology
Wendy Clark, Prosthodontics
Apoena De Aguiar Ribeiro, Oral Microbiology
Kimon Divaris, Pediatric Dentistry
Roxanne Dsouza Norwood, Dental Hygiene
Ibrahim Duqum, Prosthodontics
Eric Everett, Oral and Craniofacial Health Sciences
Bruce Gitter, Oral and Craniofacial Health Sciences
Christina Graves, Oral and Craniofacial Health Sciences
Savita Gupta, Generalists
Janet Guthmiller, Dean
Carol Haggerty, Generalists
Jennifer Harmon, Dental Hygiene
Laura Jacox, Oral and Craniofacial Health Sciences
Brandon Johnson, Oral Radiology
Katherine Jowers, Comprehensive Oral Health
Jack King, General Dentistry
Kathryn Klemz Schlichting, General Dentistry
Takashi Komabayashi, Endodontics
Jean Kontos Ginnis, Pediatric Dentistry
Jessica Lee, Pediatric Dentistry
Sarah Liebkemann, Dental Hygiene
Adam Lietzen, Periodontology
Pei Feng Lim, Oral Pain
Si On Lim, Geriatrics and Special Care
Joshua Little, Oral and Craniofacial Health Sciences
Ashley Manlove, Oral and Maxillofacial Surgery
Julie Marchesan, Periodontology
Katherine McTigue, General Dentistry
Patricia Miguez, Periodontology
Kelly Mitchell, Orthodontics
Shannon Mitchell, Dental Hygiene
Kent Moberly, General Dentistry
Antonio Moretti, Associate Dean for Advanced Education, Periodontology
Valerie Murrah, Oral and Maxillofacial Pathology
Marta Musskopf, General Dentistry
Samuel Nesbit, General Dentistry
Tung Nguyen, Orthodontics
Gustavo Oliveira, Operative Dentistry
Lauren Patton, Oral Medicine
Ceib Phillips, Oral and Craniofacial Health Sciences
Rocio Quinonez, Pediatric Dentistry
Steven Randall, General Dentistry
Glenn Reside, Oral and Maxillofacial Surgery
Luis Rueda, Prosthodontics
Lattice Sams, Dental Hygiene
Allen Samuelson, Geriatrics and Special Care
Anne Sanders, Public Health
Stephanie Swords Schaaf, General Dentistry
Luis Schlichting, Operative Dentistry
Miguel Simancas Pallares, Pediatric Dentistry
Gary Slade, Public Health
Lisa Stoner, Prosthodontics
Ronald P. Strauss, Pediatric Dentistry
Taiseer Sulaiman, Operative Dentistry
Cristiano Susin, Periodontology
Edward J. Swift, Vice Dean for Education, Operative Dentistry
Inna Tchivileva, Oral and Craniofacial Health Sciences
Lance Thurlow, Oral and Craniofacial Health Sciences
Timothy Turvey, Oral and Maxillofacial Surgery
Donald A. Tyndall, Oral and Maxillofacial Radiology
Dilek Uyan, General Dentistry
Bert Vasconcellos, Operative Dentistry
Marisa Walker, General Dentistry
Jane Weintraub, Pediatric Dentistry
Raymond White Jr., Oral and Maxillofacial Surgery
Tiffanie White, Dental Hygiene
Rebecca Wilder, Dental Hygiene
Di Wu, Oral and Craniofacial Health Sciences
Mitsuo Yamauchi, Oral and Craniofacial Health Sciences
David Zajac, Craniofacial Disorders

Information Relevant to the UNC Adams School of Dentistry Experience

Immunization Requirements

The State of North Carolina immunization requirements and the UNC Adams School of Dentistry immunization requirements for dental hygiene and doctor of dental surgery students are listed below. Documentation of all is required with application.

State Requirements

- (Total of three) Two *initial* DTP (diphtheria, tetanus, pertussis), Td (tetanus, diphtheria), or Tdap (tetanus, diphtheria, pertussis) doses. (This fulfills the primary series requirement.)
  - One Tdap booster after completion of the primary series that did not include a Tdap, and then a Td vaccine every ten years thereafter.
- Three polio (unless greater than 18 years of age).
- Two measles (rubeola), two mumps, one rubella (two MMR doses meet this requirement) or positive titers.
- Hepatitis B series, minimum of either 2 or 3 dose series. ***See school requirements below.***

UNC Adams School of Dentistry Requirements

- Varicella vaccination series (two doses) or a positive titer.
- Hepatitis B antibody (HBsAb) quantitative titer. (Please make sure your physician does not order a qualitative titer.) **It is common to lose Hepatitis B immunity and recorded that this titer be completed early*.
- COVID-19 booster or declare intent to request exemption.
- Tuberculosis blood test (IGRA-strongly preferred) or 2-step TB skin test (*test is performed TWICE*) or a TB blood test (IGRA). DDS and DH students report to Campus Health. Advanced Dental Education students report to Employee Health and follow the testing procedures required.
- Influenza vaccine after 7/1 of current year and before 10/31 of current year. (See *"Additional Requirements."*)

The matriculating student is required to submit an official certificate of immunizations that is signed by an authorized healthcare provider. Immunization documentation is to be submitted to both UNC Campus Health Services (CHS) and to the UNC Adams School of Dentistry through Connect Carolina by a published and specified date. CHS will

notify students who are not in compliance with the state immunization requirements noted above. Individuals who have not met the state immunization requirements after 30 calendar days from the first date of attendance will be administratively withdrawn from the University by the University Registrar. See the UNC Campus Health website (http://campushealth.unc.edu/services/immunizations/health-science-students-immunizations/).

Students with deficiencies in the additional immunization requirements of the school will be notified of the deficiencies by the UNC school's director of clinical compliance. The school will work with students to meet these additional requirements. The failure to comply with the school's requirements after consultation with the director of clinical compliance and the agreed-upon resolution schedule will result in administrative withdrawal from the school.

Additional Requirements

Annually:

- Influenza vaccine not earlier than July 1 but no later than October 31. Exemptions are processed through Campus Health and must be forwarded to UNC Adams School of Dentistry.
- Verification of health insurance. UNC–Chapel Hill requires all eligible students to have health insurance. (See the UNC Campus Health Student Health Insurance website (http://campushealth.unc.edu/charges-insurance/mandatory-student-health-insurance/).) Students are required to waive with existing creditable insurance each semester or they will automatically be enrolled in the UNC System Student Health Insurance Plan, which is administered by Student Blue/BCBS of NC. To waive or enroll/renew, visit the Student Blue website (http://www.bcbsnc.com/unc/).

Biennially:

- Basic Life Support certification that includes an in-person skill assessment. Documentation of current certification is required of the matriculating student and is to be submitted through Connect Carolina. *Review the ASOD:* Basic Life Support (BLS) Certification Policy *(*https://policies.unc.edu/TDClient/2833/Portal/KB/ArticleDet/?ID=131267*) for guidelines and requirements.)*

Infection Control: One of the consequences of the delivery of health care is the possibility of contracting an infectious disease such as tuberculosis, hepatitis, HIV, or herpes. To minimize this risk, the school has adopted an Infection Control Manual, which is outlined in ASOD: Infection Control Manual–Chapter 07: Personal Protective Equipment (PPE).

Infectious Disease Status

Students engaged in patient care activities are required to know their tuberculosis and hepatitis B (HBV) status, and are encouraged to learn their hepatitis C (HCV) and HIV status. State regulations require health care workers, including students, who perform surgical or dental procedures or who assist in such procedures in a way that may result in an exposure of patients to their blood, and who know themselves to be infected with HIV or HBV, to report their status to the state health director. See UNC's policy (https://policies.unc.edu/TDClient/2833/Portal/KB/ArticleDet/?ID=131793).

Late Registration

University regulations require students who do not register before the first day of classes in any semester or summer session to pay an additional fee of $20 for delayed registration. Any student who believes that she/he can show sufficient justification for the delay may petition for a refund by completing a form, which can be found online (https://registrar.unc.edu/registration-guidelines/), (under the late fee refund petition tab), outlining the reason for delay. This form must bear the approval of the dean of the UNC Adams School of Dentistry.

Awarding of Degrees and Certificates

To be awarded a degree or certificate, students must satisfactorily complete all requirements of their respective program.

Class and Clinic Attendance

Regular class and clinic attendance is a student obligation. No right or privilege exists that permits a student to be absent from any given number of sessions.

Patient Care Responsibilities

Students are granted the privilege of participating in the patient care system of the UNC Adams School of Dentistry and are expected to provide care consistent with our person-centered philosophy. Patients are a central part of the health care team and are involved in the planning of their care. It is the responsibility of the dental student to provide patients with the information needed so they make informed decisions about their treatment. The dental student has the responsibility to provide high-quality, evidence-based care to all their assigned patients in a timely manner and to uphold the ethical responsibilities as outlined in the school's Code of Professional Conduct and its Technical Standards.

Current academic policies and procedures can be found online (https://policies.unc.edu/TDClient/2833/Portal/KB/?CategoryID=21536). However, policies are subject to change at any time. The manual provides guidelines for governing the UNC Adams School of Dentistry educational programs and advises students, faculty, and staff of academic policies and procedures related to the respective programs.

DENG

Graduate-level Courses

DENG 701. Introduction to Research Design. 1 Credits.
Introduction to scientific methodology, clinical epidemiology, oral biology and technology transfer, clinical trials, evaluation of scientific literature, experiments of nature, animal models for oral research, ethnics in research, laboratory simulations and research models, and proposal writing.

Rules & Requirements
Grading Status: Letter grade.

DENG 702. Biostatistics. 2 Credits.
Introduction of biostatistical concepts, sampling, descriptive statistics, hypothesis testing, comparisons of means and proportions, 2x2 and r x c tables, correlation and simple regression, sample size and power, analysis of variance, factorial anova, multiple regression, and nonparametric tests.

Rules & Requirements
Grading Status: Letter grade.

DENG 704. Interdisciplinary Care Conference. 1 Credits.
For first & second-year dental graduate students. Review and discussion of the diagnoses, treatment plans, prognoses, and interdisciplinary care of selected patients.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

DENG 707. Regional Anatomy. 2 Credits.
Review of the anatomy of the head and neck region, including osteology, cardiovascular system, head and neck embryology, special sensory modalities, nervous system, functional nervous system, and extraoral correlation with the oral cavity.

Rules & Requirements
Grading Status: Letter grade.

DENG 710. Graduate Clinic. 2 Credits.
Observer / assist Faculty and Residents in the Graduate Clinic.

Rules & Requirements
Grading Status: Letter grade.

DENG 720. Applied Pharmacology. 1 Credits.
This course is designed for dental practitioners with sufficient general and specific clinical pharmacology knowledge to appropriately and safely utilize drugs in treatment. The course will be concentrated in three areas: general clinical pharmacology principles, general clinical pharmacology of medications, specific clinical pharmacology of drugs utilized by dental practitioners.

Rules & Requirements
Grading Status: Letter grade.

DENG 751. Advanced Pain and Anxiety Control. 2 Credits.
Introduction to: operating room and recovery room protocol; patient cardiovascular and pulmonary evaluation; adjunct and inhalant agents; nitrous oxide; pharmacology of IV anesthetic agents; EKG interpretation; arterial blood gases; anesthesia equipment monitoring; anesthetic complications and emergencies; fluid and electrolyte and blood therapy; airway management; venipuncture; pediatric anesthesia; and pre-op evaluation, orders, and rounds.

Rules & Requirements
Grading Status: Letter grade.

DENG 799. Orientation for Clinical and Research Program. 2 Credits.
During this course, student complete required clinical training in the program and the School of Dentistry, attend a library orientation, and are introduced to research procedures and requirements.

Rules & Requirements
Grading Status: Letter grade.

DENG 801. Introduction to Educational Methodologies and Clinical Teaching. 1 Credits.
This course provides learners with the knowledge and skills to function as a dental educator. Emphasis will be placed on introduction to didactic teaching and clinical instruction. There will be a focus on best practices in clinical teaching that includes psychological safety, the science of learning, learning objectives, course design, psychomotor skill development, providing effective feedback, and evaluation. The course will include a blended classroom discussion with live and online activities.

Rules & Requirements
Grading Status: Pass/Fail.

DENG 890. Special Topics in Dentistry. 1-3 Credits.
This course will cover foundational topics or dental specialty content tailored to the certificate or master students clinical area of interest.

Rules & Requirements
Repeat Rules: May be repeated for credit. 12 total credits. 4 total completions.
Grading Status: Letter grade.

DENG 901. Research. 1-6 Credits.
The goal of this course is to provide certificate or master students an opportunity to investigate different research areas and to conduct an independent research project under a faculty mentor.

Rules & Requirements
Repeat Rules: May be repeated for credit. 15 total credits. 5 total completions.
Grading Status: Letter grade.

DHED

Graduate-level Courses

DHED 715. Current Concepts in Clinical Skills. 2 Credits.
This course reviews and updates students in current treatment and diagnostic modalities in dental allied education. Students who satisfactorily pass the evaluation will be exempt.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

DHED 720. Educational Concepts. 2 Credits.
This course is designed to introduce the graduate student to various teaching philosophies and methodologies. A variety of educational concepts such as methods of presentation, testing, and measurement are explored. Emphasis is placed on the practical application of theory.

Rules & Requirements
Grading Status: Letter grade.

DHED 730. Organization and Administration. 3 Credits.
Provides information and experience in leadership, administration, and accreditation for allied dental education programs.

Rules & Requirements
Grading Status: Letter grade.

DHED 736. Clinical/Laboratory Teaching Practicum. 3 Credits.
This course provides students with the knowledge and skills to function as a competent clinical instructor. Psychomotor skill development and analysis and remediation of performance problems are two topics related to clinical teaching that are stressed.

Rules & Requirements
Grading Status: Letter grade.

DHED 760. Seminar in Education and Research. 1 Credits.
This course is designed to provide knowledge and stimulate discussion about pertinent topics in dental and allied dental education and research.

Rules & Requirements
Grading Status: Letter grade.

DHED 834. Dental Management Seminar. 2 Credits.
Dental Management Seminar

Rules & Requirements
Grading Status: Letter grade.

DHED 836. Advanced/Clinical Teaching. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.

DHED 837. Internship. 6-9 Credits.
This full semester internship provides the student with the opportunity to student teach in an allied dental program.

Rules & Requirements
Grading Status: Letter grade.

DHED 860. Seminar in Education and Research. 1 Credits.
Seminar in Education and Research

Rules & Requirements
Grading Status: Letter grade.

DHED 896. Independent Study in Dental Hygiene Education. 1-4 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

DHED 992. Master's (Non-Thesis). 3 Credits.
Individual research under the direction of a mentor with the intention of publication. Completion of a manuscript and submission is a requirement for an MS degree.

Rules & Requirements
Repeat Rules: May be repeated for credit.

ENDO

Graduate-level Courses

ENDO 710. Advanced Clinical Endodontics. 2-6 Credits.
870 hours of clinical practice

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

ENDO 811. Endodontics Case Analysis. 3 Credits.
180 hours conference.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

ENDO 812. Endodontics Topical Literature Review. 2 Credits.
270 hours.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

ENDO 992. Master's (Non-Thesis). 3 Credits.
Individual research under the direction of a mentor with the intention of publication. Completion of a manuscript and submission is a requirement for an MS degree.

Rules & Requirements
Repeat Rules: May be repeated for credit.

OCBM

Graduate-level Courses

OCBM 701. Research Techniques in Oral & Craniofacial Biomedicine. 3 Credits.
The course familiarizes participants with a selection of specialized research techniques employed in interdisciplinary basic science approaches to problems in oral & craniofacial biomedicine. Four laboratory hours a week. Permission of the instructor.

Rules & Requirements
Repeat Rules: May be repeated for credit. 12 total credits. 4 total completions.
Grading Status: Letter grade.

OCBM 710. Discussion in Oral & Craniofacial Biomedicine. 1 Credits.
A series of seminars on topics relevant to research and scientific knowledge in the field of oral & craniofacial biomedicine. Visiting scientists from other research centers in the country and abroad participate in the discussion series. One lecture hour a week. Permission of the instructor.

Rules & Requirements
Repeat Rules: May be repeated for credit. 4 total credits. 4 total completions.
Grading Status: Letter grade.

OCBM 722. Directed Studies in Oral Biology. 1 Credits.
Topics include extracellular matrices, immunology, inflammation, neurobiology, and pain management.

Rules & Requirements
Grading Status: Letter grade.

OCBM 723. Directed Studies in Oral Biology. 1 Credits.
Topics include extracellular matrices, immunology, inflammation, neurobiology, and pain management.

Rules & Requirements
Grading Status: Letter grade.
Same as: NBIO 721.

OCBM 731. Biological Concepts. 1.5 Credits.
Overview of structures and biological determinants of conditions and diseases of the oral cavity. Both growth and development and pathophysiology will be introduced in the context of three areas of oral biology: biology of extracellular matrices, host-pathogens interactions, and orofacial neurobiology.

Rules & Requirements
Grading Status: Letter grade.

OCBM 732. Biological Concepts. 1.5 Credits.
Overview of structures and biological determinants of conditions and diseases of the oral cavity. Both growth and development and pathophysiology will be introduced in the context of three areas of oral biology: biology of extracellular matrices, host-pathogens interactions, and orofacial neurobiology.

Rules & Requirements
Grading Status: Letter grade.
Same as: NBIO 732, PHCO 747.

OCBM 780. Introduction to Scientific Writing. 1 Credits.
Seminar series that will give generic instructions covering grant writing skills and structure, as well as offer insight for scientific writing.

Rules & Requirements
Grading Status: Letter grade.

OCBM 993. Master's Research and Thesis. 3 Credits.
Permission of the instructor.

Rules & Requirements
Repeat Rules: May be repeated for credit.

OCBM 994. Doctoral Research and Dissertation. 3 Credits.
Doctoral Research and Dissertation. Permission of the instructor.

Rules & Requirements
Repeat Rules: May be repeated for credit.

ORPA

Graduate-level Courses

ORPA 731. Surgical Oral Pathology Seminar. 1-3 Credits.
This weekly seminar uses unknown cases as the basis for discussion of a variety of biopsy specimens taken from the head and neck. Clinical management of cases also is discussed. Students will develop skills for interacting with their medical and dental colleagues.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

ORPA 732. Current Perspectives on Oral and Maxillofacial Pathology. 1-3 Credits.
This seminar series will focus on current research in oral and maxillofacial pathology (OMP) and related fields. Current scientific literature will be critically reviewed. In addition, students will review historical literature to gain a perspective on the development of OMP as a specialty.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

ORPA 733. Advanced Oral Pathology. 1-3 Credits.
This lecture and clinicopathologic correlation series includes study of the etiology, pathogenesis, clinical, and histopathologic aspects of diseases of the head and neck.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

ORPA 750. Surgical Pathology in the Hospital Setting. 1-3 Credits.
Under the supervision of the hospital pathologists, the student will rotate in anatomic pathology, laboratory medicine, dermatopathology, hematopathology, molecular medicine, surgical specialties, and other elective areas to develop advanced concepts of disease as well as a working relationship with medical colleagues.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

ORPA 762. Oral and Maxillofacial Pathology Seminar. 2 Credits.
Course includes developmental disturbances of soft and hard tissues, syndromes, inflammation, immunology, pulp and periapical disease, periodontal disease, tumor-like proliferations, microbial disease, endocrine and metabolic diseases. Also includes odontogenic cysts, salivary gland disease, oral epithelial and mesenchymal neoplasms, bone and joint diseases, nerve muscle diseases, dermatological diseases, and blood diseases.

Rules & Requirements
Grading Status: Letter grade.

ORPA 992. Master's (Non-Thesis). 3 Credits.
Individual research under the direction of a mentor with the intention of publication. Completion of a manuscript and submission is a requirement for an MS degree.

Rules & Requirements
Repeat Rules: May be repeated for credit.

OPER

Graduate-level Courses

OPER 701. Operative Dentistry Seminar II. 1 Credits.
(Aesthetic and Adhesive Dentistry.) In this seminar, graduate students will learn the scientific principles and clinical techniques involved in dental aesthetics and adhesive restorations. Students may be required to develop a case presentation for this seminar.

Rules & Requirements
Repeat Rules: May be repeated for credit. 2 total credits. 2 total completions.
Grading Status: Letter grade.

OPER 702. Operative Literature Review I. 1 Credits.
This is a weekly seminar offering a forum for presentation and discussion of relevant scientific papers on various operative dentistry related topics. Typically, a resident or faculty member presents one or more relevant papers, which is followed by a critical analysis of the study and discussion of the topic.

Rules & Requirements
Repeat Rules: May be repeated for credit. 4 total credits. 4 total completions.
Grading Status: Letter grade.

OPER 704. Operative Clinical Seminar A. 1 Credits.
This seminar will involve a series of presentations where the student will present clinical cases resolved in the graduate clinic.

Rules & Requirements
Repeat Rules: May be repeated for credit. 2 total credits. 2 total completions.
Grading Status: Letter grade.

OPER 736. Graduate Dental Biomaterials II. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

OPER 790. Operative Dentistry Clinic II. 2-6 Credits.
(Patient treatment.) Primary focus is on patients requiring more advanced considerations for operative dentistry treatment planning and/or procedures. There will be a strong focus on aesthetic dentistry, prevention, and 'medical management' of caries, and the use of advanced technologies to provide operative dentistry treatment.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

OPER 810. Applied Biomaterials Research. 3 Credits.
This course involves application of the principles of in-vitro testing of dental materials. Students will be required to prepare, subject them to specified testing, and collect data.

Rules & Requirements
Repeat Rules: May be repeated for credit. 3 total credits. 10 total completions.
Grading Status: Letter grade.

OPER 992. Master's (Non-Thesis). 3 Credits.
Individual research under the direction of a mentor with the intention of publication. Completion of a manuscript and submission is a requirement for an MS degree.

Rules & Requirements
Repeat Rules: May be repeated for credit.

ORAD

Graduate-level Courses

ORAD 702. Advanced Oral Radiologic Technology. 4 Credits.
Seminars, laboratory, and clinical sessions to provide experience in advanced oral radiologic procedures.

Rules & Requirements
Grading Status: Letter grade.

ORAD 704. Advanced Radiologic Diagnosis II. 3 Credits.
Literature review, seminars, and clinical experience in advanced radiologic diagnosis.

Rules & Requirements
Grading Status: Letter grade.

ORAD 705. Principles for Advanced Diagnostic and Therapeutic Radiology. 4 Credits.
Literature review and seminars in the application of radiologic procedures such as computed tomography, digital imaging, and magnetic resonance for diagnosis of oral and maxillofacial conditions. Fundamentals of radiation therapy are also included.

Rules & Requirements
Grading Status: Letter grade.

ORAD 706. Advanced Oral Radiology. 2 Credits.
Radiographic selection criteria, dental radiographs efficacy, panoramic radiology, extraoral techniques, radiation risks and radiological hygiene in dental practice, principle of radiologic interpretation, radiology of cysts and tumors, radiology of the TMJ, radiology of systemic disease, quality improvement, radiology for dental implants, digital imaging in dentistry, and advanced craniofacial region imaging.

Rules & Requirements
Grading Status: Letter grade.

ORAD 707. Graduate Clinical Oral Radiology. 2-6 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

ORAD 710. Oral and Maxillofacial Radiology Literature Review. 1 Credits.
Course is designed for graduate students with a strong interest in OMFR and seeks to expose students to classical articles in the radiology literature.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

ORAD 802. Clinical Radiology Conference. 1 Credits.
Case studies in the interpretation of unusual conditions of the oral and maxillofacial region.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

ORAD 992. Master's (Non-Thesis). 3 Credits.
Individual research under the direction of a mentor with the intention of publication. Completion of a manuscript and submission is a requirement for an MS degree.

Rules & Requirements
Repeat Rules: May be repeated for credit.

ORTH

Graduate-level Courses

ORTH 801. Orthodontic Technique. 4 Credits.
Introduction to orthodontic technique and procedures for beginning orthodontic graduate students.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

ORTH 802. Current Topics in Orthodontics. 1 Credits.
Seminars on pertinent orthodontic literature for advanced orthodontic students.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

ORTH 803. Orthodontic Diagnosis. 2 Credits.
Principles of orthodontic diagnosis and analysis of diagnostic records for orthodontic specialists.

Rules & Requirements
Grading Status: Letter grade.

ORTH 805. Advanced Clinical Orthodontics. 2-6 Credits.
Clinical Orthodontics

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

ORTH 806. Science of Tooth Movement. 2 Credits.
Mechanical principles in orthodontic force production and control; biological response to orthodontic force.

Rules & Requirements
Grading Status: Letter grade.

ORTH 807. Orthodontic Biomaterials. 1-3 Credits.
Introduction to orthodontic biomaterials and integration with the basic principles of engineering, science, and orthodontics.

Rules & Requirements
Grading Status: Letter grade.

ORTH 808. Growth and Development. 4 Credits.
Principles of growth and development, emphasizing dento-facial development from an evolutionary and molecular biology perspective, as well as the traditional anatomical perspective.

Rules & Requirements
Grading Status: Letter grade.

ORTH 809. Preventative Orthodontics. 3 Credits.
Preventative orthodontics.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

ORTH 810. Multidisciplinary Management of Craniofacial Anomalies. 1 Credits.
This course introduces the graduate student to the management of patients with craniofacial anomalies using a multidisciplinary team approach. The course gives the graduate student a basic understanding of the role of specialties involved, the procedures, and timing of interventions in the management of craniofacial patients from birth to adulthood.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

ORTH 820. Advanced Biomechanics. 3 Credits.
Concepts in orthodontic mechanics emphasizing segmented arch approaches and laboratory tests of appliance components and designs.

Rules & Requirements
Grading Status: Letter grade.

ORTH 822. Environment of Specialty Practice. 3 Credits.
Trends in health care delivery; organization and management of orthodontic specialty practice.

Rules & Requirements
Grading Status: Letter grade.

ORTH 992. Master's (Non-Thesis). 3 Credits.
Individual research under the direction of a mentor with the intention of publication. Completion of a manuscript and submission is a requirement for an MS degree.

Rules & Requirements
Repeat Rules: May be repeated for credit.

PEDO

Graduate-level Courses

PEDO 800. Maternal and Child Health Seminar Series. 1 Credits.
COURSE FOR PEDIATRIC DENTISTRY STUDENTS ONLY (One hour a week for each fall and spring semester.) This is a seminar series that focuses on a broad range of topics related to pediatric dentistry and pediatric medicine, including general medical issues, practice management, social issues, child advocacy, and presentation of unusual clinical cases.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PEDO 801. Pediatric Diagnosis and Treatment Planning Seminar. 1 Credits.
(One hour a week each fall and spring semester for two years.) This course is a seminar wherein diagnosis and treatment planning options are considered through a problem-oriented approach. For cases in progress and completed, outcomes are reviewed and critiqued.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PEDO 803. Principles of Pediatric Dentistry. 1 Credits.
(Six hours a month for fall and spring semesters for 24 months.) This seminar covers the fundamentals of pediatric dentistry from behavior management to pulp therapy. The course relies on readings of classic and contemporary literature with seminars that include discussions and critiques of readings.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PEDO 804. Advanced Clinical Pediatric Dentistry. 2-6 Credits.
This course provides clinical experience in all phases of pediatric dentistry, including dental treatment under conscious sedation and general anesthesia.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 99 total completions.
Grading Status: Letter grade.

PEDO 805. Contemporary Practice Management. 1 Credits.
(One hour monthly during the spring semester for three years.) This course provides an understanding of the design, implementation, and management of a modern pediatric dental practice. Most seminar leaders are private practitioners who are adjunct faculty in the department.

Rules & Requirements
Grading Status: Letter grade.

PEDO 806. Treatment of Pediatric Dental Emergencies. 1 Credits.
(One hour a week each week for 36 months.) This seminar series serves as a faculty/resident forum for reviewing the previous week's emergency cases and in which diagnosis and treatment options are reviewed and critiqued. Endodontic faculty and residents also participate in this course.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PEDO 992. Master's (Non-Thesis). 3 Credits.
Individual research under the direction of a mentor with the intention of publication. Completion of a manuscript and publication is a requirement for an MS degree.

Rules & Requirements
Repeat Rules: May be repeated for credit.

PERI

Graduate-level Courses

PERI 711. Periodontal Therapy. 1 Credits.
This graduate seminar reviews techniques and procedures for treating periodontal diseases. Topics include gingival grafting, surgical flap management, osseous surgery, periodontal regeneration, antimicrobials, host modulation, and periodontal medicine.

Rules & Requirements
Grading Status: Letter grade.

PERI 721. Case Analysis. 2 Credits.
This graduate seminar continues themes introduced in PERI 720 and discusses advanced implant topics including bone augmentation, peri-implantitis, and implant efficacy assessment. The seminar includes didactic lectures, case presentations, and journal club components. Spring.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PERI 723. Case Analysis. 2 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PERI 731. Seminar in Periodontology. 2 Credits.
In this first-year literature review course, graduate students present and evaluate the evidence on periodontal disease etiology, pathogenesis, risk factors and treatments including mechanical, surgical, and pharmacological approaches.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PERI 761. Seminar in Periodontology. 2 Credits.
In this second- and third-year literature review course, graduate students discuss evidence on advanced topics in periodontology or related disciplines.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PERI 820. Introduction to Implants. 1 Credits.
This graduate seminar traces the biology of osseointegration, surgical techniques in dental implant placement, and prosthetic restoration. The seminar includes didactic lectures, case presentations, and journal club components.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PERI 821. Clinical Implantology. 1 Credits.
This graduate seminar continues themes introduced in PERI 820 and discusses advanced implant topics including bone augmentation, peri-implantitis, and implant efficacy assessment. The seminar includes didactic lectures, case presentations, and journal club components.

Rules & Requirements
Grading Status: Letter grade.

PERI 891. Advanced Clinical Periodontics and Clinical Practice. 2-6 Credits.
Within this specialty clinic, graduate students gain experience and competency in diagnosing and comprehensively treating patients with periodontal diseases. Cases may involve interdisciplinary care, medical management, dental implants, and sedation procedures.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PERI 992. Master's (Non-Thesis). 3 Credits.
Individual research under the direction of a mentor with the intention of publication. Completion of a manuscript and publication is a requirement for an MS degree.

Rules & Requirements
Repeat Rules: May be repeated for credit.

PROS

Graduate-level Courses

PROS 702. Introduction to Prosthodontic Literature. 1 Credits.
A seminar designed to review early and classic prosthodontic literature common to fixed and removable prosthodontics.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PROS 722. Prosthodontic Principles, Diagnosis, and Treatment Planning - Fixed and Removable. 2 Credits.
Principles of diagnosis and treatment relative to the prosthodontic patient are covered in depth in this seminar series.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PROS 732. Prosthodontic Diagnosis and Treatment Planning. 1 Credits.
This course provides the prosthodontic student with adequate knowledge in fixed prosthodontics to promote continued lifelong learning, offer quality treatment to a diverse population with various needs using fixed prosthesis, manage complications and failures of fixed prostheses, and to challenge the ABP examination.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PROS 751. Maxillofacial Prosthodontic Principles, Diagnosis, and Treatment. 1 Credits.
Principles of diagnosis and treatment relative to maxillofacial prosthodontic patients are covered in depth in this seminar series.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PROS 801. Advanced Clinical Fixed and Removable Prosthodontics. 2-6 Credits.
This clinical offering is designed to permit the graduate student to experience all phases of advanced patient management in fixed and removable prosthodontics.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PROS 802. Advanced Clinical Fixed and Removable Prosthodontics. 2-6 Credits.
This clinical offering is designed to permit the graduate student to experience all phases of advanced patient management in fixed and removable prosthodontics.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PROS 851. Clinical Maxillofacial Prosthodontics. 2 Credits.
This clinical offering is designed to permit the graduate student to manage the comprehensive prosthodontic care of congenital and/or acquired maxillofacial defects in both the dental school and hospital environment.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PROS 853. Clinical Maxillofacial Prosthodontics. 2 Credits.
This clinical offering is designed to permit the graduate student to manage the comprehensive prosthodontic care of congenital and/or acquired maxillofacial defects in both the dental school and hospital environment.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PROS 992. Master's (Non-Thesis). 3 Credits.
Individual research under the direction of a mentor with the intention of publication. Completion of a manuscript and submission is a requirement for an MS degree.

Rules & Requirements
Repeat Rules: May be repeated for credit.

Contact Information

UNC Adams School of Dentistry
Visit Program Website (http://www.dentistry.unc.edu)

385 South Columbia St., CB #7450, Chapel Hill, NC 27599-7450

ADE Student Services Mgr
Ashley Blake
blakeae@email.unc.edu

Contact: 919-537-3230

DIGITAL CURATION AND MANAGEMENT (GRAD)

The master of professional science (M.P.S) in digital curation and management is a 30-credit-hour, online or hybrid degree that focuses on digital curation. This comprehensive degree includes flexible electives and a set of core courses that prepare students to understand the complexities of data management and digital assert stewardship in relation to longevity, discoverability, and usability. All students will also get hands-on training with a remote or in-person digital curation internship.

Digital Curation and Management, M.P.S.

Course Requirements

Code	Title	Hours
Core Courses		
INLS 722	Introduction to Metadata Architectures and Applications	1.5
INLS 750	Introduction to Digital Curation	3
INLS 751	Data Governance and Curation	3
INLS 765	Information Technology Foundations for Managing Digital Collections	1.5
INLS 766	Audit and Certification of Trustworthy Digital Repositories	1.5
INLS 767	Information Assurance	3
INLS 800	Seminar Series in Digital Curation	1.5
GRAD 712	Leadership in the Workplace	1.5
GRAD 713	Applied Project Management: Frameworks, Principles and Techniques	1.5
GRAD 714	Introduction to Financial Accounting	1.5
GRAD 715	Business Communication	1.5
Electives		
Students must take 6 credits as electives from the pre-approved list below, or seek Director approval upon request.		6
Thesis/Substitute or Dissertation		
INLS 992	Master's (Non-Thesis)	3
Minimum Hours		**30**

Code	Title	Hours
Electives		
INLS 556	Introduction to Archives and Records Management	3
INLS 560	Programming for Information Science	3
INLS 561	Digital Forensics for Curation of Digital Collections	3
INLS 572	Web Development I	3
INLS 712	Introduction to Text Mining	1.5
INLS 714	Introduction to Information Analytics	1.5
INLS 724	Introduction to Electronic Records Management	1.5
INLS 726	Big Data and NoSQL for Data Science	1.5
INLS 761	Data Analysis	1.5
INLS 772	Applied Statistics, Machine Learning, & Data Communication	3
INLS 773	Database for Data Science	1.5
INLS 774	Applied Data Ethics	1.5

Milestones

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 27) for more information.

- Master's Committee
- Master's Written Exam/Approved Exam Substitute
- Thesis Substitute
- Residence Credit
- Master's Exit Survey

Recommended Checklist

1. Approved to register for INLS 992 internship or paper
2. Comprehensive exam, written (oral only if failed written)
3. Master's non-thesis substitution (internship or paper)
4. Applied to graduate
5. Grades met
6. Degree credit hour met
7. Exit Survey

Professors

Jaime Arguello
Jeffrey Bardzell, Dean
Robert Capra
Tressie McMillian Cottom
Melanie Feinberg
David Gotz

Sandra Hughes-Hassell
Mohammad Hossein Jarrahi
Diane Kelly, Wilson Distinguished Professor
Daniel Kreiss
Christopher (Cal) Lee
Gary Marchionini, Cary C. Boshamer Distinguished Professor
Lukasz Mazur
Marijel (Maggie) Melo
Arcot Rajasekar
Brian Sturm

Associate Professors

Bradley M. Hemminger
Ryan Shaw
Francesca Tripodi
Danny T.Y. Wu
Fei Yu

Assistant Professors

Alexandra Chassanoff
Antia Crescenzi
William (Willie) Payne
Yue (Ray) Wang
Joseph Winberry

Professors of the Practice

Ericka Patillo, Associate Dean for Academic Affairs
Matt Perault

Research Assistant Professor

Anita Crescenzi

Teaching Associate Professor

Ronald Bergquist

Teaching Assistant Professors

Michael Fox
Elliott Kuecker
Casey H. Rawson
Megan A. Winget

Contact Information

Digital Curation and Management
Visit Program Website (https://sils.unc.edu/digital-curation/)

Program Director
Elliott Kuecker
ellio@unc.edu

Doctoral & Special Programs Coordinator
Eleni Papadoyannis
epapa@unc.edu

DEPARTMENT OF DRAMATIC ART (GRAD)

The Department of Dramatic Art offers professional training programs in acting, costume production, and technical production leading to the master of fine arts (M.F.A.) degree. The production facilities in the Joan H. Gillings Center for Dramatic Art include the Paul Green Theatre and the Elizabeth Price Kenan Theatre along with studios, rehearsal hall, costume complex, and scene shops.

Admission

Generally, only first-year applicants are considered for admission. Candidates should check with the department for admission information pertaining to their specific area of specialization (i.e., acting, technical production, or costume production).

All applicants must meet admission requirements established by The Graduate School of the University of North Carolina at Chapel Hill. Each area of specialization within the department requires additional application materials. In the costuming and technical areas, applicants are required to submit portfolios. Candidates should check with the department for further information as to what each area entails. All acting candidates must audition (https://drama.unc.edu/acting-patp-2/apply/). In addition to on-campus auditions, the department holds auditions every other year in January in New York and Chicago. Applications must be received by January 10 to be considered.

Each student is responsible for becoming familiar with the general regulations of The Graduate School and particularly with the dates indicated on the calendar for the academic year. This information is contained elsewhere in the Graduate Catalog. Please note that, due to the nature of the professional training programs, the calendar for graduate students in the Department of Dramatic Art will not always coincide with that of the University. Graduate students in the department are frequently required to work on productions during University-scheduled holidays.

A limited number of graduate appointments are available in the department. Appointments are presently awarded in the areas of acting, technical production, and costume production in support of courses. All appointments involve instructional or laboratory supervisory responsibility.

Through disciplined classroom training and a progressive involvement in performance or production opportunities, students in the master of fine arts (M.F.A.) program are challenged to develop the skills and attitudes that enable them to compete in the professional theatre. Emphasizing accomplishment in a range of performance and production styles, the programs complement the variety of theatrical experiences available in the PlayMakers Repertory Company (PRC), a professional full-season equity company and a member of The League of Resident Theatres. Within his or her area of specialization, a student will be ready upon graduation to perform a variety of roles or assume a range of responsibilities onstage or backstage in stage, film, or television. The University of North Carolina at Chapel Hill is a member of URTA (University/Resident Theatre Association, Inc.).

Curriculum

Each candidate pursues a course of study in a conservatory environment. Classroom training offers a variety of approaches, each designed to develop and refine the candidate's artistic and professional potential. Classroom work is augmented by participation in the professional season of PlayMakers Repertory Company. In addition to the PRC, students find performance opportunities in studio projects and productions.

Evaluation

At least once each semester, the faculty formally evaluates the candidate's progress and makes recommendations concerning his or her continuation in the program. Evaluations are made of each individual on the basis of classroom and performance or production work. Letter grades (H, P, L, F) are assigned for work in all courses.

Residency and Requirements

All candidates are required to be in residence for three years, six consecutive semesters. The departmental system of evaluation requires that the student be invited to continue in the second and then in the final year of the program. While all programs require their students to complete 60 credit hours, those hours are apportioned differently from program to program. In addition to 60 credit hours, each area of specialization carries its own graduation requirements. Candidates are encouraged to ascertain individual requirements for graduation as soon as possible.

Detailed information can be obtained by addressing inquiries to the Director of Graduate Studies, Department of Dramatic Art, CB# 3230, Center for Dramatic Art, The University of North Carolina at Chapel Hill, Chapel Hill, N.C. 27599-3230. Additional information (http://drama.unc.edu/programs-of-study/graduate-studies/) is available on the department's Web site.

Professors

Janet A. Chambers, Design
Michael J. Rolleri, Head of Technical Production

Associate Professor

Tracy Bersley, Co-Head of M.F.A. Acting, Movement
Julia Gibson, Co-Head of M.F.A. Acting, Actor

Assistant Professors

Letitia James, Voice and Speech
Gwendolyn Schwinke, Voice and Speech
Tao Wang, Assistant Professor and David and Rebecca Pardue Fellow
Pam Bond, Assistant Professor, Costume History

Teaching Professor

Laura Pates, Interim Technical Director

Teaching Assistant Professor

Aubrey Snowden, Head of Graduate Studies

Professors of the Practice

Vivienne Benesch, Producing Artistic Director/PRC
Triffin Morris, Head of M.F.A. Costume Production

DRAM

Advanced Undergraduate and Graduate-level Courses

DRAM 431. Playwriting Workshop. 3 Credits.
As image makers, the work we do has a powerful and lasting impact on perception. When writing beyond ourselves and our experience, special care must be given the development of characters and exploration of the world of the play. This class explores the impact of social identity on playwriting and how we can use the power of storytelling to reflect a greater vision for humanity.

Rules & Requirements
Requisites: Prerequisites, DRAM 231 and DRAM 331.
Grading Status: Letter grade.

DRAM 460. Stage Management. 3 Credits.
Permission of the department. A study of the basic principles and practices of modern stage management.

Rules & Requirements
IDEAs in Action Gen Ed: HI-PERFORM.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

DRAM 465. Sound Design. 3 Credits.
The study of general principles of sound design for the theatre. Theory and application of sound design techniques for the stage, including script analysis, staging concepts, special effects, sound plots, and technology.

Rules & Requirements
IDEAs in Action Gen Ed: FC-CREATE.
Grading Status: Letter grade.

DRAM 466. Scene Design. 3 Credits.
Permission of the instructor. General principles of visual design as applied to scenery for the theatre. Instruction in standard techniques of planning and rendering scene design.

Rules & Requirements
IDEAs in Action Gen Ed: FC-AESTH or FC-CREATE.
Grading Status: Letter grade.

DRAM 467. Costume Design I. 3 Credits.
Permission of the instructor. Studies and practicum in play analysis and costume design for the theatre. Instruction in techniques of planning and rendering costume design.

Rules & Requirements
IDEAs in Action Gen Ed: FC-AESTH or FC-CREATE.
Grading Status: Letter grade.

DRAM 468. Lighting Design I. 3 Credits.
Permission of the instructor. General principles of lighting design as applied to the performing arts. Theory and instruction in standard techniques of lighting for the stage.

Rules & Requirements
IDEAs in Action Gen Ed: FC-CREATE.
Grading Status: Letter grade.

DRAM 470. Survey of Costume History. 3 Credits.
A survey of historic costume forms from ancient Egypt to the present time. Honors version available.

Rules & Requirements
Grading Status: Letter grade.

DRAM 484. Studies in Dramaturgy and Criticism. 3 Credits.
This seminar seeks to introduce students to the principles of arts criticism through study of the work of a variety of different critics, by distinguishing between the nature of criticism and reviewing the arts, and through the students' own practice of critical writing.

Rules & Requirements
Grading Status: Letter grade.

DRAM 486. Latin American Theatre. 3 Credits.
This course explores the historical and aesthetic development of Latin American theatre, focusing on particular factors that distinguish this theatre from the Western European tradition.

Rules & Requirements
IDEAs in Action Gen Ed: FC-AESTH or FC-GLOBAL.
Grading Status: Letter grade.

DRAM 488. United States Latino/a Theatre. 3 Credits.
Investigation of United States Latino/a theatre texts and performance practices as a discreet genre. United States Latino/a theatre will be distinguished from the dominant culture, and the diversity of forms and styles will be discussed.

Rules & Requirements
IDEAs in Action Gen Ed: FC-AESTH or FC-POWER.
Grading Status: Letter grade.

DRAM 491. Issues in Arts Management. 3 Credits.
Arts management issues taught through analysis of case studies. Course includes management theories, organizational structures, and current issues.

Rules & Requirements
Grading Status: Letter grade.

DRAM 493. Theatre Management. 3 Credits.
Practicum in theatre management procedures and business of the theatre involving box office, audience development, research, publicity, operational, and contract procedures in regard to artists, technicians, managers, and producers. Students actively engage in management areas of the PlayMakers Repertory Company and productions of the Department of Dramatic Art.

Rules & Requirements
IDEAs in Action Gen Ed: HI-INTERN.
Grading Status: Letter grade.

DRAM 586. Costume Seminars I: Dyeing and Painting. 1-3 Credits.
Permission of the instructor. Taught in a four-semester rotation. May be repeated for credit for a total of six hours for undergraduates and 12 hours for graduate students. Series of topics in costume for use in design and production for the stage.

Rules & Requirements
Requisites: Prerequisite, DRAM 192.
Grading Status: Letter grade.

DRAM 590. Advanced Special Topics in Dramatic Art. 0.5-3 Credits.
The study of a topic in dramaturgy, theatrical design, or theatrical production for advanced undergraduates and graduate students. Content and instructor will vary. May be repeated for credit.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 6 total credits. 2 total completions.
Grading Status: Letter grade.

DRAM 666. Media in Performance. 3 Credits.
Required preparation, one performance studies course above COMM 400. Permission of the instructor for students lacking the required preparation. Project-based class where students acquire skills and critical approaches to create collaborative, professional, multimedia works.

Rules & Requirements
IDEAs in Action Gen Ed: HI-PERFORM.
Grading Status: Letter grade.
Same as: COMM 666.

DRAM 667. Costume Design for the Body. 3 Credits.
Study of proportions and the effects of corsetry and body padding to body proportions. This class requires permission of the instructor.

Rules & Requirements
Requisites: Prerequisite, DRAM 192 or permission of the instructor.
Grading Status: Letter grade.

DRAM 691H. Honors Project in Dramatic Art. 3 Credits.
Required preparation, 3.3 cumulative grade point average and permission of the department. The commencement of a special project (essay or creative endeavor), approved by the department, by a student who has been designated a candidate for undergraduate honors.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

DRAM 692H. Honors Project in Dramatic Art. 3 Credits.
Permission of the department. The completion of a special project by a student who has been designated a candidate for undergraduate honors.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Requisites: Prerequisite, DRAM 691H.
Grading Status: Letter grade.

DRAM 697. Senior Seminar. 3 Credits.
Close study of the interrelationships between theory and practice in contemporary world theatre, placing developments in their cultural contexts, and exploring current theatrical trends in an international framework.

Rules & Requirements
Grading Status: Letter grade.

Graduate-level Courses

DRAM 720. Acting I. 3 Credits.
Admission to the M.F.A. Acting program required. Intensive professional training for the actor. Must be taken fall and spring.

Rules & Requirements
Grading Status: Letter grade.

DRAM 721. Acting II. 3 Credits.
Admission to the second year of the M.F.A. Acting program required. Advanced professional training for the actor. Must be taken fall and spring.

Rules & Requirements
Grading Status: Letter grade.

DRAM 722. Voice I. 3 Credits.
Admission to the M.F.A. Acting program required. Development of the individual actor's voice and speech. Must be taken fall and spring.

Rules & Requirements
Grading Status: Letter grade.

DRAM 723. Voice II. 3 Credits.
Admission to the second year of the M.F.A. Acting program required. Expansion of the individual's vocal versatility in performance. Must be taken fall and spring.

Rules & Requirements
Grading Status: Letter grade.

DRAM 724. Movement I. 3 Credits.
Admission to the M.F.A. Acting program required. Development of the actor's body as an expressive instrument. Must be taken fall and spring.

Rules & Requirements
Grading Status: Letter grade.

DRAM 725. Movement II. 3 Credits.
Acting program required. Advanced projects in movement. Special sessions in Physical Comedy and Clown. Must be taken fall and spring. Admission to the second year of the M.F.A.

Rules & Requirements
Grading Status: Letter grade.

DRAM 726. Rehearsal and Performance I. 1-6 Credits.
Admission to the M.F.A. Acting program required. Rehearsal and performance of special ensemble projects. Must be taken fall and spring. May be repeated for credit.

Rules & Requirements
Grading Status: Letter grade.

DRAM 727. Rehearsal and Performance II. 1-6 Credits.
Admission to the second year of the M.F.A. Acting program required. Practical application of techniques in rehearsal and performance in studio and main stage production. Must be taken fall and spring. May be repeated for credit.

Rules & Requirements
Grading Status: Letter grade.

DRAM 728. Acting Practicum I. 3-12 Credits.
Admission to the third year of the M.F.A. Acting program required. Intense practicum as a member of the PlayMakers Repertory acting company. Preparation and presentation of assigned projects and work in departmental productions. Work in voice and movement as scheduled.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

DRAM 731. Costume Seminars II: Millinery. 2 Credits.
Advanced costume production techniques with an emphasis on millinery. Undergraduates-Instructor permission only. Permission of the instructor.

Rules & Requirements
Requisites: Prerequisite, DRAM 192.
Grading Status: Letter grade.

DRAM 732. Costume Seminars III: Masks and Armor. 2 Credits.
Permission of the instructor. Advanced costume production techniques with an emphasis on creating masks and armor.

Rules & Requirements
Grading Status: Letter grade.

DRAM 733. Costume Seminars IV: Decorative Arts. 2 Credits.
Advanced costume production techniques with an emphasis on decorative arts, with an emphasis on fans and shoes. This class requires permission of the instructor.

Rules & Requirements
Grading Status: Letter grade.

DRAM 740. Costume Production I: Couture Methods. 3 Credits.
Advanced construction techniques in theatrical costuming with an emphasis on couture methods. This class requires permission of the instructor.

Rules & Requirements
Requisites: Prerequisite, DRAM 192 for undergraduates.
Grading Status: Letter grade.

DRAM 750. Advanced Special Studies: Costume Production II: Advanced Couture Methods. 0.5-3 Credits.
Advanced construction techniques with an emphasis on advanced couture methods. Graduate students only.

Rules & Requirements
Grading Status: Letter grade.

DRAM 752. Special Studies: Costume Production III: Tailoring. 0.5-3 Credits.
Costume graduates only. Advanced construction techniques with an emphasis on bodice development. Costume graduate students only.

Rules & Requirements
Grading Status: Letter grade.

DRAM 760. Costume Construction III: Advanced Pattern Making. 1-3 Credits.
Study of pattern making in advanced shapes for the stage. Graduate students only.

Rules & Requirements
Requisites: Prerequisite, DRAM 473.
Grading Status: Letter grade.

DRAM 762. Costume Construction IV: Advanced Pattern Making. 1-3 Credits.
Continued study of pattern making with advanced shapes for theatrical costumes. Graduate students only.

Rules & Requirements
Requisites: Prerequisite, DRAM 473.
Grading Status: Letter grade.

DRAM 764. Costume Construction V: Creative Draping. 1-3 Credits.
Using combination of patternmaking and dressmaking techniques to achieve unusual shapes in theatrical costume. Graduate students only.

Rules & Requirements
Requisites: Prerequisites, DRAM 473, 474, 760, and 762.
Grading Status: Letter grade.

DRAM 766. Digital Technology in Costume Production. 1-3 Credits.
Permission of instructor. Investigation of digital applications as applies to professional development for costume makers.

Rules & Requirements
Grading Status: Letter grade.

DRAM 768. World Costume. 1 Credits.
Explores a variety of techniques and understanding of traditional garments as it pertains to non-Western cultures. The goal of the class is learning from outside experts utilizing their perspective and knowledge to bring an in-depth examination of clothing from around the world.

Rules & Requirements
Grading Status: Letter grade.

DRAM 770. Period Pattern I: Pre-Victorian. 3 Credits.
Advanced study of western fashion from the 14th through 18th Centuries. Graduate students only.

Rules & Requirements
Grading Status: Letter grade.

DRAM 772. Period Pattern II: Victorian. 3 Credits.
Costume graduates only. Study of historical pattern with an emphasis in Victorian era.

Rules & Requirements
Grading Status: Letter grade.

DRAM 773. Costume Construction I. 3 Credits.
Beginning instruction in pattern making through flat pattern for theatrical costume. Undergraduates need permission of the instructor.

Rules & Requirements
Grading Status: Letter grade.

DRAM 775. Costume Construction II. 3 Credits.
Beginning instruction in pattern making through draping on a dress form for theatrical costume.

Rules & Requirements
Requisites: Prerequisite, DRAM 473; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

DRAM 780. Costume Management I: Supplies and Suppliers. 1-3 Credits.
Study of shop and business management techniques required to run a successful costume making business. Permission of the instructor.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

DRAM 784. Costume Management. 1 Credits.
Overview of organization and personnel management for costume production MFA students.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

DRAM 790. Costume Laboratory I. 3 Credits.
Practical work in the costume shop though production assignments. Costume graduate students only.

Rules & Requirements
Grading Status: Letter grade.

DRAM 791. Costume Laboratory II. 3 Credits.
Practical work in the costume shop though production assignments. Costume graduate students only.

Rules & Requirements
Grading Status: Letter grade.

DRAM 792. Costume Laboratory III. 3 Credits.
Practical work in the costume shop though production assignments. Costume graduate students only.

Rules & Requirements
Grading Status: Letter grade.

DRAM 793. Costume Laboratory IV. 3 Credits.
Practical work in the costume shop though production assignments. Costume graduate students only.

Rules & Requirements
Grading Status: Letter grade.

DRAM 796. Costume Laboratory V. 1-3 Credits.
Admission to the third year of the M.F.A. Costume program required. Advanced practical work in the costume shop. Must be taken fall and spring.

Rules & Requirements
Grading Status: Letter grade.

DRAM 799. Costume Program Internship. 3-6 Credits.
Intensive practicum in Costume Arts, with tutorial and class assignments on an individual basis as required. Fall or spring. May be repeated for credit.

Rules & Requirements
Grading Status: Letter grade.

DRAM 800. Technical Direction. 3-6 Credits.
Study of the technical and engineering problems in production and standard theatrical drafting and construction conventions. Must be taken fall and spring.

Rules & Requirements
Requisites: Prerequisite, DRAM 491; Permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

DRAM 801. Technical Direction II. 3-6 Credits.
Technical graduates only. Additional study of technical and engineering problems in production.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

DRAM 802. Advanced Technical Direction. 3-6 Credits.
Admission to the second year of the M.F.A. Technical Production program required. An advanced study of the management, technical, and engineering problems involved in theatrical production. Must be taken fall and spring.

Rules & Requirements
Grading Status: Letter grade.

DRAM 803. Advanced Technical Direction II. 1-6 Credits.
Admission to the third year of the M.F.A. Technical Production program required. An advanced study of the management, technical, and engineering problems involved in theatrical production. Must be taken fall and spring.

Rules & Requirements
Grading Status: Letter grade.

DRAM 805. Special Studies: Technical Production. 0.5-12 Credits.
Advanced scenic construction techniques leading to specific project or production responsibility in the area of scenic construction in Department of Dramatic Art productions and PlayMakers Repertory Company. A minimum of fifteen hours per week is required during the rehearsal period. Faculty evaluation at the close of the production. May be repeated for credit.

Rules & Requirements
Requisites: Prerequisite, DRAM 192; Permission of the instructor for students lacking the prerequisite.
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

DRAM 806. Technical Planning and Production. 3-6 Credits.
Admission into the third year of the M.F.A. Technical Production program required. Intensive practicum in production projects for departmental and PlayMakers Repertory Company productions. Must be taken fall and spring.

Rules & Requirements
Grading Status: Letter grade.

DRAM 813. Special Studies: Technical Production. 1-6 Credits.
Technical graduates only. Continuation of advanced scenic construction techniques with specific project or production responsibility in the area of scenic construction.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

DRAM 814. Professional Theater Laboratory: Technical Production. 0.5-12 Credits.
Technical graduates only. Individual programs in scenic construction techniques.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

DRAM 820. Production and Facilities Management. 3 Credits.
This course will teach the Technical Production Graduate Candidate and those going into administrative leadership of producing theaters a greater perspective and insight into what a Production Manager does during a season at a professional theater.

Rules & Requirements
Grading Status: Letter grade.

DRAM 821. Advanced Lighting Design. 3 Credits.
Permission of the instructor. This course acquaints the student with professional practice in lighting design through lecture by faculty and visiting professionals and through evaluation of lighting designs executed by students and critiqued by professionals.

Rules & Requirements
Grading Status: Letter grade.

DRAM 830. Seminar in Professional Practice: Technical Production. 1-21 Credits.
Admission to the M.F.A. program in Technical Production required. An examination of professional theatre practice through contact with students, staff, faculty, and visiting artists in technical theatre. Generally taken fall and spring. May be repeated for credit.

Rules & Requirements
Grading Status: Letter grade.

DRAM 841. Design Technical Theatre Practicum I. 3-6 Credits.
Admission into the M.F.A. Technical program required. Practical work in scene shop. Must be taken fall and spring.

Rules & Requirements
Grading Status: Letter grade.

DRAM 842. M.F.A /Technical Theatre Practicum II. 1-6 Credits.
Technical graduates only. Continuation of practical work in scene shop.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

DRAM 843. Design Technical Theatre Practicum II. 3-6 Credits.
Admission to the second year of the M.F.A. Technical program required. Advanced practical work in scene shop. Must be taken fall and spring.

Rules & Requirements
Requisites: Prerequisite, DRAM 841.
Grading Status: Letter grade.

DRAM 844. M.F.A./Technical Practicum IV. 3-6 Credits.
Continuation of advanced practical work in scene shop.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

DRAM 845. Design Technical Internship. 3-6 Credits.
Intensive practicum in production projects for departmental and PlayMakers Repertory Company productions, with independent studies as assigned on an individual basis. May be repeated for credit.

Rules & Requirements
Grading Status: Letter grade.

DRAM 875. Seminar in Dramatic Literature. 1-3 Credits.
Admission to the M.F.A. program in any area required. An examination of the literature of the theatre in terms of dramatic construction, theory, and interpretation. May be repeated for credit.

Rules & Requirements
Grading Status: Letter grade.

DRAM 992. Master's Final Practicum. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

Contact Information

Department of Dramatic Art
Visit Program Website (http://drama.unc.edu/)

Chair
Kathryn Williams

Associate Chair
Jeffrey Cornell

Head of Graduate Studies
Aubrey Snowden

DEPARTMENT OF EARTH, MARINE, AND ENVIRONMENTAL SCIENCES (GRAD)

The Department of Earth, Marine and Environmental Sciences (EMES) advances understanding of the earth and ocean processes that govern our planet, shape diverse ecosystems, sustain life, and drive environmental change. We promote exploration and discovery of the natural world by engaging students in research-based learning at all levels. Our graduates are equipped with the strong science foundation, critical thinking skills, and interdisciplinary perspectives required to tackle current and future environmental and resource challenges. We encourage engaged service that translates knowledge for the public good. We support a welcoming and inclusive environment, foster diverse identities and perspectives, and encourage collaboration with all segments of society.

Facilities

The primary location of our department in Chapel Hill fosters interactions with faculty, students, and staff from other UNC–Chapel Hill departments, nearby research institutions and companies; places scientists within easy reach of RDU International Airport, allowing for the convenient transport of equipment and personnel to distant ports and field locations; and provides ready access to advanced computational resources through ITS Research Computing and RENCI (Renaissance Computing Institute). The department's marine laboratory, the Institute of Marine Sciences (https://emes.unc.edu/institute-of-marine-sciences/) (IMS) in Morehead City, provides coastal access for field studies and instruction. Shared, flexible laboratory space is also available at the Institute since the expansion.

In addition to the many core facilities on campus, the department maintains research facilities and office space in both Murray-Venable Hall and Elisha Mitchell Hall. Shared laboratories and facilities include an aquarium research lab for coral research, several clean rooms for trace-metal clean work; a 120-ft experimental wave tank; an environmental genomics lab for microbial culturing, imaging and molecular work; radioisotope counting (alpha-, beta- and gamma-emitting radionuclides) and isotope ratio monitoring mass spectrometry labs; a micromilling and sample preparation lab for geochemical analysis of biogenic carbonates; and a sediment analysis laboratory including core storage. IMS operates a fleet of research vessels (17 to 48-feet), an outdoor mesocosm farm and wet-lab space with running seawater. Specialized analytical equipment for earth and marine sciences research includes dedicated GC/MS, chromatographic and spectroscope systems, quadrupole ICP-MS for metal concentrations and lithium isotope analyses; laser-size particle analyzer; and high-capacity light- and temperature-controlled incubators. Observational instrumentation for field use includes a suite of current meters and temperature/pressure sensors; and water-column, near-bottom and sub-bottom water samplers and profilers.

Admission and General Degree Requirements

For admission to the EMES department graduate program, an undergraduate degree is generally required in a physical or natural science such as physics, mathematics, chemistry, biology, microbiology, botany, zoology, geology, marine science or in computer science or engineering. Students are advised to develop a broad undergraduate science major with as many as possible of the following courses: mathematics through calculus, computer science, physics, general and organic chemistry, environmental science, physical chemistry, invertebrate zoology or paleontology, botany, zoology, ecology, physiology, geology, and statistics. Please note that the Graduate Record Examination (GRE) is no longer required of applicants. All foreign students whose native language is not English also must take the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS) examination.

The EMES graduate program primarily accepts applications in the fall semester admissions cycle for both the MS and PhD degrees. Spring admissions are possible on an individual basis by deferral of the start date for a student admitted in the fall admission cycle. A Graduate Admissions Committee is formed each cycle and is responsible for reviewing applications, making recommendations for admission, and identifying candidates for Graduate School recruitment fellowship nominations. EMES implements a holistic application review process where all applications are read by faculty members and scored using a rubric. Faculty members also identify specific applicants they would like considered for admission who would conduct graduate research under their supervision (applicants-of-interest). Offers of admission are then sent by The Graduate School following normal practices.

Financial Support

Students in the EMES graduate program will generally receive financial support in the form of stipend, health insurance, fees and tuition. Students are typically supported on Teaching Assistantships (TA), Research Assistantships (RA), or fellowships. Minimum stipend amounts set by the department will be greater than or equal to UNC Graduate School minimum stipends. Teaching Assistantships will reflect a 16 to 20-hr per week commitment and Research Assistantships will reflect a 20-hr per week commitment, with the remainder of a student's time being devoted to scholarly pursuits working toward their graduate degree. It is common for students to be supported on TA or fellowship the first year in the program then transition to RA support from a grant related to their thesis or dissertation research topic later in their program. The department also nominates select students for consideration by The Graduate School for graduate fellowships. For recruitment fellowships, no additional application is necessary. International and out-of-state students are recommended for remission of out-of-state tuition costs.

Programs

Graduate students will earn a degree in Earth and Marine Sciences. The program aims to provide students with rigorous, individually tailored educational and research experiences that prepares them for research, teaching and other careers in EMES-related fields. Both masters (M.S.) and doctor of philosophy (Ph.D.) degree programs are offered, including a M.S. bypass option. This graduate program will enable students to learn about current concepts and issues in the natural sciences and develop skills for analysis of contemporary and future local, national and global problems in earth, marine and environmental sciences. Based on a solid foundation of required coursework, students develop advanced skills in data analysis and science communication along with options to complete a concentration of courses focused on thematic areas of geology, marine sciences and biological sciences/ecology. Thesis and dissertation research enables students to develop these tools in the scientific process and apply their skills to answer fundamental questions in their field that

are of relevance to the scientific community. A strong emphasis is placed on preparing students to enter the workforce and continue their research careers in a broad number of academic disciplines.

Master of Science

Requirements for the master of science degree are 30 semester hours (including a minimum program residence credit (https://handbook.unc.edu/residencecredit.html) of two full semesters and three hours of EMES 993), a proposal defense, a thesis, and a final oral examination in defense of the thesis.

Doctor of Philosophy

Many students have completed a master's degree before being admitted to the doctoral program, but some students enter the Ph.D. program having completed only an undergraduate degree. Students admitted to the M.S. program who elect to pursue a Ph.D. instead may be permitted to bypass the master's degree after two semesters of residence upon demonstration of superior scholastic performance and research potential. Recommendation by the student's graduate committee and approval by the Director of Graduate Studies (DGS) is required in this case. Admission to the Ph.D. program after completing the MS degree in EMES requires faculty approval.

Requirements for the Ph.D. degree to complete a minimum program residence credit (https://handbook.unc.edu/residencecredit.html) of four full semesters (which may include credit hours from the M.S. degree) and a minimum of six hours of EMES 994, a proposal defense, a dissertation, and a final oral examination in defense of the dissertation.

Course Work

In their first two semesters, students will typically take 9-12 credits worth of courses each semester. In subsequent years, students will take additional courses as necessary to meet course credit requirements along with EMES 993/EMES 994 to provide full-time student status.

Required Courses: Both M.S. and Ph.D. students will be required to take three courses covering Emerging Topics in EMES (EMES 700), Science Communication (EMES 701), and Data Analysis (EMES 520). Total credit hours for the three required courses are 9 credits. A waiver for a required course may be requested if the student has taken a comparable course at another institution.

Concentrations: Graduate students in the Earth and Marine Sciences graduate degree program will be provided the opportunity to obtain a concentration in an EMES subdiscipline, including Geological Sciences, Marine Sciences, or Life Sciences/Ecology. To obtain a concentration, students are required to take a minimum of 9 credits from a list of upper-level classes within a subdiscipline. There is also a no concentration option.

Additional Courses: Students will make up remaining credits with elective courses offered by the EMES department, including research in EMES, or those offered from other departments within or outside of UNC, upon approval by the student's committee and DGS, if required (e.g., transferred credits). Students must be registered for three credits of thesis (EMES 993) or dissertation (EMES 994) during the semester or summer term in which the thesis/dissertation is proposed and defended.

Distinguished Professors

Richard A. Luettich
Christopher S. Martens
Brent A. McKee
Rachel Noble
Hans Pearl

Professors

Carol Arnosti
Jaye E. Cable
Karl Castillo
Drew S. Coleman
Joel Fodrie
Eric Kirby
Jonathan Lees
Niels Lindquist
Adrian Marchetti
Laura Moore
Janet Nye
Tamlin M. Pavelsky
Michael Piehler
Antonio Rodriguez
Harvey Seim
Donna Surge
Andreas Teske

Associate Professors

Marc J. Alperin
Scott Gifford
Xiaoming Liu
Janet Nye
Johanna Rosman
Alicia Septer
Kevin G. Stewart

Assistant Professors

Sevan Adourian
Kennet Flores
Jonathan Gardner
Antonia Sebastian

Research Assistant Professors

Nathan Hall
Chao Wang

Teaching Associate Professors

Megan Plenge

Teaching Assistant Professors

Michelle Haskin

Professors Emeriti

Dan Albert
John M. Bane Jr.
Larry K. Benninger
Paul D. Fullagar
Allen F. Glazner

GEOL

Graduate-level Courses

GEOL 700. Research Seminar. 1 Credits.
Required of all entering graduate students or permission of the department. A topical seminar in current research topics in the earth sciences. Presentations by selected faculty with an emphasis on in-depth, critical analysis of current research literature. Two hours a week.

Rules & Requirements
Grading Status: Letter grade.

GEOL 701. Graduate Seminar. 0.5-21 Credits.
Rules & Requirements
Grading Status: Letter grade.

GEOL 707. Stratigraphic Micropaleontology: Mesozoic Calcareous Nannofossils. 4 Credits.
Rules & Requirements
Grading Status: Letter grade.

GEOL 708. Stratigraphic Paleontology: Cenozoic Calcareous Nannofossils. 4 Credits.
Rules & Requirements
Grading Status: Letter grade.

GEOL 711. Advanced Mineralogy. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.

GEOL 804. Advanced Igneous Petrology. 4 Credits.
Rules & Requirements
Grading Status: Letter grade.

GEOL 805. Igneous Geochemistry. 4 Credits.
Rules & Requirements
Grading Status: Letter grade.

GEOL 806. Metamorphic Petrology. 4 Credits.
Rules & Requirements
Grading Status: Letter grade.

GEOL 851. Seminar in Stratigraphy. 1-15 Credits.
Rules & Requirements
Grading Status: Letter grade.

GEOL 852. Seminar in Paleoclimatology. 1-15 Credits.
Rules & Requirements
Grading Status: Letter grade.

GEOL 853. Seminar in Paleontology. 1-15 Credits.
Rules & Requirements
Grading Status: Letter grade.

GEOL 854. Seminar in Continental Margins. 0.5-21 Credits.
Rules & Requirements
Grading Status: Letter grade.

GEOL 855. Seminar in Sedimentology. 1-15 Credits.
Rules & Requirements
Grading Status: Letter grade.

GEOL 858. Seminar in Petrology. 1-15 Credits.
Rules & Requirements
Grading Status: Letter grade.

GEOL 859. Seminar in Economic Geology. 1-15 Credits.
Rules & Requirements
Grading Status: Letter grade.

GEOL 862. Seminar in Seismology. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.

GEOL 863. Seminar in Structural Geology. 1-15 Credits.
Rules & Requirements
Grading Status: Letter grade.

GEOL 900. Research in Geology. 1-9 Credits.
Rules & Requirements
Grading Status: Letter grade.

MASC

Graduate-level Courses

MASC 781. Numerical ODE/PDE, I. 3 Credits.
Single, multistep methods for ODEs: stability regions, the root condition; stiff systems, backward difference formulas; two-point BVPs; stability theory; finite difference methods for linear advection diffusion equations.

Rules & Requirements
Requisites: Prerequisites, MATH 661 and 662.
Grading Status: Letter grade.
Same as: MATH 761, ENVR 761.

MASC 783. Mathematical Modeling I. 3 Credits.
Nondimensionalization and identification of leading order physical effects with respect to relevant scales and phenomena; derivation of classical models of fluid mechanics (lubrication, slender filament, thin films, Stokes flow); derivation of weakly nonlinear envelope equations. Fall.

Rules & Requirements
Requisites: Prerequisites, MATH 661, 662, 668, and 669.
Grading Status: Letter grade.
Same as: MATH 768, ENVR 763.

Contact Information

Department of Earth, Marine, and Environmental Sciences
Visit Program Website (https://emes.unc.edu/graduate-program/)

Chair
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DEPARTMENT OF ECONOMICS (GRAD)

The graduate program in the Department of Economics prepares students for teaching and research careers in the fields of econometrics, financial econometrics, health economics, industrial organization, international finance, international trade, labor economics, microeconomic theory, quantitative macroeconomics. During the first year of the program, students concentrate on the core areas of econometrics, macroeconomics, and microeconomics. Later, each student chooses a field of specialization. The department's objective is to provide students both with broad training in economics and econometrics and in a chosen field of specialization.

A number of students supplement their study in economics at UNC–Chapel Hill with work in finance, statistics, mathematics, biostatistics, urban and regional studies, computer science, and operations research, along with courses at Duke University and North Carolina State University. Strong offerings in these and other related areas enhance the overall graduate training offered to students.

Fellowships and Assistantships

The department offers several fellowships and a number of research and teaching assistantships. All applicants to the Ph.D. program are considered for financial support, and most students enrolled in the Ph.D. program receive a stipend, tuition assistance, and health insurance from the Department of Economics or other sponsors for the first five years of the program. Detailed information regarding the fellowships, assistantships, and instructorships may be obtained on the graduate program web page (https://econ.unc.edu/graduate/) in the department's website (https://econ.unc.edu/).

Master of Science

The Economics Department Master of Science (M.S.) degree is intended to complement Ph.D. programs from our and other departments. Students can obtain an M.S. while working toward a Ph.D. in economics or they may pursue an M.S. if they decide to leave the Ph.D. program early or they do not meet the requirements. In addition, students from other graduate programs at UNC–Chapel Hill may pursue an M.S. in economics while completing the Ph.D. in the other program. Note that our economics graduate program does not include separate M.S.- and Ph.D.-level courses. Thus, any student pursuing an M.S. through our program must have the background and qualifications to successfully complete Ph.D.-level course work. For these reasons, only applications from UNC–Chapel Hill graduate students currently enrolled in another primary degree program will be considered. The master's program does not consider candidates outside of these circumstances. Master's and doctoral students take the same courses in the first year; therefore, master's students must have competitive backgrounds similar to our doctoral students to do well in the courses.

The master's degree requires the following coursework:

Code	Title	Hours
ECON 710	Advanced Microeconomic Theory I	3
ECON 720	Advanced Macroeconomic Theory I	3
ECON 700	Basic Quantitative Techniques	3
One course in econometrics:		3
ECON 770	Introduction to Econometric Theory	
ECON 771	Econometrics	
ECON 870	Advanced Econometrics	
Two courses in a specialized field		6
Three electives		9
A research course:		
ECON 992	Master's (Non-Thesis)	3
Total Hours		**30**

Courses are to be selected in consultation with, and with the approval of, the Director of Graduate Studies and the faculty in the field of specialization. In addition to coursework, a master of science student writes a research paper under the direction of the faculty advisor. The *Graduate School Handbook* describes the general requirements for the master's examinations and for the papers.

Doctor of Philosophy

A doctoral candidate must complete 16 Ph.D.-level courses and two semesters of the doctoral dissertation course (ECON 994). Unless otherwise specified by the faculty in the specialized field, at least 13 of the 16 courses must be from the Department of Economics. All courses must be approved by the Director of Graduate Studies.

Courses in the Fundamentals of Economics

The following eight courses or their equivalents are required:

Code	Title	Hours
ECON 700	Basic Quantitative Techniques	3
ECON 701	Analytical Methods for Mathematical Economics	3
ECON 710	Advanced Microeconomic Theory I	3
ECON 711	Advanced Microeconomic Theory II	3
ECON 720	Advanced Macroeconomic Theory I	3
ECON 721	Advanced Macroeconomic Theory II	3
ECON 770	Introduction to Econometric Theory	3
ECON 771	Econometrics	3
Total Hours		**24**

Courses in the Field of Specialization within Economics

Each student selects a field of specialization. At least three (3) courses in the field of specialization are required. Current examples of field of specialization courses are available on the web page Field Specialization Requirements. (https://econ.unc.edu/graduate-program/field-requirements/) Notice that these are only examples and new fields of specialization can be created by students under the supervision of a faculty member.

Courses in Supporting Fields

The remaining courses are supporting courses chosen by the student in consultation with the Director of Graduate Studies and other faculty members. The supporting courses may be within the field of specialization or in areas that complement the field of specialization.

Doctoral Exams and Dissertation

Students must pass qualifying exams in econometrics, macroeconomics, and microeconomics. Students are also required to produce and pass a field paper. The qualifiers are taken in June and August of the student's first year. Students have three opportunities to pass each of the exams they take.

The *Graduate School Handbook* describes the requirements for the doctoral oral exam, doctoral dissertation, and final oral defense of the dissertation. The doctoral oral exam includes an evaluation of the thesis prospectus.

The general regulations of The Graduate School apply to students receiving graduate degrees in economics from the University of North Carolina at Chapel Hill.

Professors

Gary A. Biglaiser, Microeconomic Theory, Industrial Organization
Anusha Chari, International Finance, Open-Economy Macroeconomics
Luca Flabbi, Labor Economics, Development Economics, Applied Econometrics
Jane Cooley Fruehwirth, Social Economics, Economics of Education, Public Economics
Neville R. Francis, Macroeconomics, Time Series
Eric Ghysels, Econometrics, Financial Econometrics
Donna B. Gilleskie, Health Economics, Applied Econometrics, Labor Economics
Peter Hansen, Econometrics, Time Series, Financial Econometrics
Lutz A. Hendricks, Macroeconomics, Human Capital, Economic Growth, Wealth Inequality
Jonathan B. Hill, Econometric Theory, Time Series Econometrics, Statistics
Fei Li, Applied Microeconomic Theory, Industrial Organization, Labor Economics
Brian McManus, Empirical Industrial Organization, Applied Microeconomics, Public Economics
Peter Norman, Microeconomics, Public Economics
Steven S. Rosefielde, Comparative Economic Systems
Jonathan Williams, Applied Econometrics, Industrial Organization, Applied Microeconomics
Andrew Yates, Environmental Economics

Associate Professors

Andrii Babii, Econometrics
Désiré Kédagni, Econometrics, Causal Inference, Development Economics
Sergio O. Parreiras, Game Theory, Microeconomics
Klara Peter, Labor Economics, Development Economics, Applied Microeconomics, Public Policy
Stanislav Rabinovich, Macroeconomics, Labor Economics
Can Tian, Macroeconomics, Searching and Matching Theory
Valentin Verdier, Econometrics

Assistant Professors

Marlon Azinovic-Yang, Macroeconomics
Jaden Chen, Microeconomic Theory
Marco Duarte Filho, Industrial Organization, Antitrust Economics
Qing Gong, Public Economics, Health Economics
Samuel Higbee, Econometrics
Andrés Hincapié, Labor Economics, Health Economics, Entrepreneurship
William Jungerman, Macroeconomics
Jacob Kohlhepp, Labor Economics, Microeconomic Theory
Yasutaka Koike-Mori, Macroeconomics
Can Urgun, Microeconomic Theory
Chuan Yu, Industrial Organization

Fixed-Term Faculty

Yinghsuan Chao, Macroeconomics
Christopher Handy, Applied Econometrics
Robert McDonough, Applied Econometrics, Labor Economics
Christopher Roark, Macroeconomics, Finance, Economics Education
Michelle Sheran-Andrews, Microeconomics, Labor Economics, Economic Statistics
Tugba Somuncu, Environmental Economics
Kalina Staub, Labor Economics, Gender Economics, Economics Education, Family Economics
Geetha Vaidyanathan, Macroeconomics, Statistics, Monetary Economics, International Economics

Professors Emeriti

John Akin
Dennis R. Appleyard
Ralph Byrns
Patrick Conway
William A. Darity Jr.
Alfred J. Field Jr.
A. Ronald Gallant
David Guilkey
Dell B. Johannesen
James L. Murphy
Michael K. Salemi
John Stewart
Helen V. Tauchen
Boone Turchi
Roger Waud
James A. Wilde
Xiaodong Wu

ECON

Graduate-level Courses

Graduate standing in economics or permission of the director of graduate studies in economics is required for all courses numbered 700 or higher.

ECON 700. Basic Quantitative Techniques. 3 Credits.
Topics from real analysis, linear algebra, calculus, convex analysis, nonlinear programming, dynamic programming.

Rules & Requirements
Grading Status: Letter grade.

ECON 701. Analytical Methods for Mathematical Economics. 3 Credits.
Covers mathematical bases for economic analysis. Proofs, real analysis, functional analysis, convexity, fixed points, and modularity.

Rules & Requirements
Grading Status: Letter grade.

ECON 710. Advanced Microeconomic Theory I. 3 Credits.
This course offers a graduate level introduction to decision theory, general equilibrium and game theory.

Rules & Requirements
Requisites: Pre- or corequisites, ECON 410 and 700.
Grading Status: Letter grade.

ECON 711. Advanced Microeconomic Theory II. 3 Credits.
This course covers basic game theory and information economics. It covers games in normal and extensive form. Topics include repeated games, Bayesian games, dynamic games of incomplete information, mechanism design, and contracting.

Rules & Requirements
Requisites: Prerequisite, ECON 710.
Grading Status: Letter grade.

ECON 720. Advanced Macroeconomic Theory I. 3 Credits.
Macroeconomic models and solution methods. Overlapping generations, growth models in discrete and continuous time, endogenous growth, stochastic growth, heterogeneous agents with incomplete markets.

Rules & Requirements
Requisites: Prerequisite, ECON 700 or permission of instructor.
Grading Status: Letter grade.

ECON 721. Advanced Macroeconomic Theory II. 3 Credits.
Growth models, general equilibrium approach to monetary theory; input-output; disequilibrium theory; extensions of Keynesian and classical models.

Rules & Requirements
Requisites: Prerequisite, ECON 720.
Grading Status: Letter grade.

ECON 770. Introduction to Econometric Theory. 3 Credits.
Probability theory, expectation, conditional expectation, modes of convergence, limit and interchange theorems, and the asymptotics of maximum likelihood, generalized method of moments and efficient method of moments.

Rules & Requirements
Grading Status: Letter grade.

ECON 771. Econometrics. 3 Credits.
Standard first year course in econometric theory and methods. Topics include least squares and maximum likelihood, asymptotic theory, classic inference, GMM, seemingly unrelated regression, endogeneity bias, and multi-stage least squares.

Rules & Requirements
Requisites: Prerequisite, ECON 770.
Grading Status: Letter grade.

ECON 775. Applied Econometric Analysis. 3 Credits.
This course covers concepts and methods used in economic research with an emphasis on empirical applications. Topics include the basic single equation regression model, multiple equation models, discrete and categorical dependent variables, instrumental variables and longitudinal data. Permission of the instructor required.

Rules & Requirements
Grading Status: Letter grade.

ECON 799. Experimental. 1-3 Credits.
Varied.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

ECON 805. Seminar in Teaching Methods in Economic for TAs. 1-3 Credits.
Covers skills in lecturing, encouraging student participation and active learning, writing exams, planning and evaluating courses. Students design and teach a module that includes class discussion and hands-on learning. Targeted to beginning teaching assistants.

Rules & Requirements
Grading Status: Letter grade.

ECON 806. Seminar in Teaching Methods in Economics. 1-3 Credits.
Doctoral candidacy in economics or permission of the instructor. Covers skills in lecturing, encouraging student participation and active learning, writing exams, planning and evaluating courses. Students design and teach a module that includes class discussion and hands-on learning. Targeted to those teaching independent sections.

Rules & Requirements
Grading Status: Letter grade.

ECON 810. Game Theory I. 3 Credits.
Noncooperative games in strategic and extensive form, with perfect and imperfect information. Other topics from: information economics, mechanism design, auctions, repeated games, bargaining, bounded rationality, learning, evolutionary games, cooperative games.

Rules & Requirements
Requisites: Prerequisite, ECON 710 and 711; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

ECON 811. Game Theory II. 3 Credits.
This course is a continuation of ECON 810. Topics covered will be chosen from those listed, but not covered in ECON 810.

Rules & Requirements
Requisites: Prerequisite, ECON 810; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

ECON 820. Monetary Theory. 3 Credits.
This course focuses on econometric testing of macroeconomic theories. Topics will vary from year to year, but will include for example, modern theories of short-run fluctuations: sources of business cycle and the evolution of income, employment, interest rate, and prices, monetary and fiscal policy theories in the presence of real and nominal rigidities.

Rules & Requirements
Grading Status: Letter grade.

ECON 821. Topics in Macroeconomics II. 1-3 Credits.
This course covers topics in macroeconomics such as economic growth, human capital, wealth inequality, and trade. The precise topics depend on the instructor.

Rules & Requirements
Grading Status: Letter grade.

ECON 822. Firm Dynamics and Production Networks. 3 Credits.
This course studies producer heterogeneity and its macroeconomic implications, i.e., aggregate growth or fluctuations. It introduces a set of theoretical and quantitative tools and aims to provide a coherent view of aggregate production from a disaggregated perspective. The course starts from classic firm-dynamics models and their applications, emphasizing the cross-sectional variation among firms. The second part introduces networks in macroeconomics and their implications, focusing on the connections among firms. Specific topics may differ each year.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

ECON 840. Advanced Finance: Expenditure. 3 Credits.
Analysis of market failure and reasons for public spending, cost-benefit analysis and program budgeting, public decision making, redistribution and fiscal equity, intergovernmental transfers.

Rules & Requirements
Grading Status: Letter grade.

ECON 841. Advanced Public Finance: Revenues. 3 Credits.
Criteria for judging tax structures, incidence and impact of taxation, user charges and debt finance, intergovernmental coordination, and macroeconomic effects.

Rules & Requirements
Requisites: Prerequisite, ECON 840; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

ECON 845. Advanced Business Organization and Social Control. 3 Credits.
Permission of the instructor. Extensive readings in the literature are required. Emphasis is placed upon the role of economic analysis in dealing with problems in this field.

Rules & Requirements
Grading Status: Letter grade.

ECON 846. Theoretical Industrial Organization. 3 Credits.
This course covers theoretical industrial organization (IO). Topics typically covered include: price discrimination, product bundling, foreclosure analysis, vertical relations between firms, two-sided markets, dynamic games, and markets with switching costs and network effects.

Rules & Requirements
Grading Status: Letter grade.

ECON 847. EMPIRICAL INDUSTRIAL ORGANIZATION I. 3 Credits.
This course covers empirical methods in industrial organization (IO), and is typically presented as the first part of a two-course empirical IO sequence. Topics typically covered include: demand estimation, information issues, vertical relations between firms, and productivity.

Rules & Requirements
Grading Status: Letter grade.

ECON 848. EMPIRICAL INDUSTRIAL ORGANIZATION II. 3 Credits.
This course covers empirical methods in industrial organization (IO), and is typically presented as the second part of a two-course empirical IO sequence. Topics typically covered include: static games of complete and incomplete information, dynamic demand, dynamic games, and auctions.

Rules & Requirements
Grading Status: Letter grade.

ECON 850. Health Economics. 3 Credits.
Measurement and modeling of the demand for medical care, the demand for and supply of health insurance, and the incorporation of health, medical care, and health insurance in determining both short and long run labor supply.

Rules & Requirements
Requisites: Prerequisites, ECON 710 and 771; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

ECON 851. Health Economics for Developing Countries. 3 Credits.
Major topics are: how health and development are related, the demand for health services, cost-benefit and cost-effectiveness analysis, and methods for financing health care in developing, resource-constrained nations.

Rules & Requirements
Requisites: Prerequisites, ECON 710 and 771; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

ECON 852. Health Economics: Markets and Supply-Side Actors. 3 Credits.
This course explores the economics of health care markets with a focus on supply-side actors, such as insurers, hospitals and physicians, and drug manufacturers. We will cover an assortment of topics in health economics and analyze them using tools from applied microeconomics and industrial organization.

Rules & Requirements
Requisites: Prerequisite, ECON 847, 848, 873, 880 or 881.
Grading Status: Letter grade.

ECON 855. Economics and Population. 3 Credits.
Analysis of economic-demographic interrelationships including: population and economic development; population, environmental decay, and zero population growth; models of fertility, migration, and spatial organization; population policy. (Not regularly offered.)

Rules & Requirements
Requisites: Prerequisite, graduate standing in economics or permission of the instructor.
Grading Status: Letter grade.

ECON 860. Theory of International Trade. 3 Credits.
Graduate standing in economics or permission of the instructor. The theory of international values; comparative advantage and the gains from trade; commercial policy.

Rules & Requirements
Grading Status: Letter grade.

ECON 861. International Monetary Economics. 3 Credits.
Graduate standing in economics or permission of the instructor. Analysis of the international monetary system; exchange rates; the process of adjustment in the balance of payments.

Rules & Requirements
Grading Status: Letter grade.

ECON 865. Economic Development: Theory and Policy. 3 Credits.
Permission of the instructor. Intensive study of the development processes and problems of the less developed countries, with emphasis on theories of growth and development, internal and external policies, and planning strategies.

Rules & Requirements
Grading Status: Letter grade.

ECON 870. Advanced Econometrics. 3 Credits.
ECON 870 constitutes a one-semester treatment of the fundamental theory of econometrics. Topics covered include asymptotic distribution theory, linear and nonlinear models, specification testing techniques, and simultaneous equations models.

Rules & Requirements
Requisites: Prerequisites, ECON 770, 771, and MATH 547.
Grading Status: Letter grade.

ECON 871. Time Series Econometrics. 3 Credits.
Advanced introduction to time series analysis. Covers stationarity, ergodicity, autoregressive and moving average models, unit roots and spurious regression, vector autoregressive models, cointegration, structural breaks/parameter instability and models with time-varying parameters.

Rules & Requirements
Requisites: Prerequisites, ECON 770 and ECON 771.
Grading Status: Letter grade.

ECON 872. Nonlinear Econometric Methods. 3 Credits.
Density estimation, nonparametric regression, neural nets, nonlinear regression, generalized method of moments, seminonparametric time series, estimating stochastic differential equations and nonlinear latent variables.

Rules & Requirements
Requisites: Prerequisite, ECON 870.
Grading Status: Letter grade.

ECON 873. Microeconometrics. 3 Credits.
Limited dependent variable models such as binary outcome models, multinomial outcome models, and censored and truncated outcome models. Count data models. Duration models. Panel data analysis.

Rules & Requirements
Requisites: Prerequisite, ECON 870.
Grading Status: Letter grade.

ECON 874. Advanced Topics in Causal Inference. 3 Credits.
This course covers recent advanced topics in causal inference, such as potential outcome models, randomized experiments, selection on observables, instrumental variables, testability of identifying assumptions, difference-in-differences models, changes-in-changes approach, synthetic control methods, regression discontinuity designs, and sample selection.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

ECON 876. Advanced Topics in Data Science and Finance. 3 Credits.
The course is intended for PhD students in economics, finance, and related fields. With a focus on asset pricing, it is designed to teach students how to conduct empirical research using machine learning, high-dimensional data science, and AI tools. The goal is for students to become familiar with the most recent methodological advances and to be able to analyze and evaluate new research effectively.

Rules & Requirements
Requisites: Prerequisites, ECON 770 and ECON 771.
Grading Status: Letter grade.

ECON 877. Foundations for Continuous Time Asset Pricing. 3 Credits.
This course introduces students to mathematical foundations and economic interpretation of the main probabilistic tools (stochasatic calculus, martingale methods) in continuous time finance.

Rules & Requirements
Requisites: Prerequisites, STOR 634 and 635.
Grading Status: Letter grade.

ECON 880. Labor Economics I. 3 Credits.
Analysis of short- and long-run aspects of supply and demand of labor, including empirical analysis of labor force behavior of males, females, blacks, and whites. Microeconomic effects of marriage, fertility, mobility on labor supply, and macroeconomic effects of unemployment on inflation.

Rules & Requirements
Requisites: Prerequisite, ECON 710; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

ECON 881. Labor Economics II. 3 Credits.
This course covers a range of topics in labor economics, with a unifying theme of understanding how economics informs policies for alleviating inequality. Topics include social interactions, education, early childhood intervention, and discrimination.

Rules & Requirements
Grading Status: Letter grade.

ECON 882. Topics in Labor Economics-Dynamics and Search. 3 Credits.
The course covers specific topics in labor economics by paying particular attention to dynamic considerations. The focus is on two groups of contributions, organized by methodology: The first group emphasizes search frictions in the labor market; the second uses discrete choice models to treat labor market dynamic. Specific topics covered in the course include: equilibrium unemployment, returns to Schooling, gender differentials, household interaction.

Rules & Requirements
Grading Status: Letter grade.

ECON 883. Search Theory. 3 Credits.
Search frictions have long been recognized as a reason for the existence of labor and capital unemployment. It is also a leading explanation for the price and wage dispersion, a standard tool in monetary economics. This course covers a number of widely used models of search frictions, and discusses how they relate to imperfect information about individual or match-specific characteristics and or coordination problems.

Rules & Requirements
Grading Status: Letter grade.

ECON 890. Seminar. 1-15 Credits.
Permission of the instructor. Individual research in a special field under direction of a member of the department.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

ECON 892. Research Practicum. 1-3 Credits.
Students complete a pre-approved internship under the direction of a faculty member and the director of graduate studies. A paper summarizing the research work is required.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

ECON 896. Independent Study. 1-3 Credits.
Varied.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

ECON 899. Experimental. 1-3 Credits.
Varied.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

ECON 900. Dissertation Workshop: Topics in Economics. 1-3 Credits.
Permission of the instructor. Discussion of current research with topics varying from year to year. Oral and written reports on dissertation research. May be repeated for credit.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

ECON 901. Dissertation Completion Workshop. 1.5 Credits.
The main course objective is to formally practice communication (verbally and written) of research methods and findings. The course also provides professional development designed to formally prepare students for the economics job market. These course activities provide students with professional competencies and connections and help them envision their future with clarity and confidence. Targeted to those in their last year of doctoral studies that are seeking employment.

Rules & Requirements
Grading Status: Letter grade.

ECON 910. Dissertation Workshop in Microeconomic Theory. 1-3 Credits.
Permission of the instructor. Discussion of current research in microeconomic theory and industrial organization. Oral and written reports on dissertation research. May be repeated for credit.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

ECON 920. Dissertation Workshop in Macroeconomics. 1-3 Credits.
Permission of the instructor. Discussion of current research in macroeconomics and monetary economics. Oral and written reports on dissertation research. May be repeated for credit.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

ECON 945. Dissertation Workshop in Industrial Organization. 1.5 Credits.
Discussion of current research in industrial organization. Student presentations of dissertation and other research. Oral and written reports on dissertation research. Instructor permission required.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

ECON 958. Seminar in Population. 3 Credits.
Graduate standing in economics required. For advanced population students, this course addresses the newest and most advanced economic demography literature.

Rules & Requirements
Grading Status: Letter grade.

ECON 960. Dissertation Workshop in International and Development Economics. 1-3 Credits.
Permission of the instructor. Discussion of current research in international and development economics. Oral and written reports on dissertation research. May be repeated for credit.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

ECON 966. Seminar in Economic Development. 1-3 Credits.
This course is an introduction to the literature and research methods of economic development and transition economies. May be repeated for credit.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

ECON 968. Seminar in Soviet Economics. 3 Credits.
Permission of the instructor. Studies of selected problems of the Soviet economy and related aspects of Soviet economic thought. Seminar members are expected to present reports on assigned research topics.

Rules & Requirements
Grading Status: Letter grade.

ECON 970. Dissertation Workshop in Econometrics and Financial Econometrics. 1-3 Credits.
Permission of the instructor. Discussion of current research in econometrics and financial econometrics. Oral and written reports on dissertation research. May be repeated for credit.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

ECON 971. Research in Econometrics. 3 Credits.
The course introduces students to theoretical and applied research topics in econometrics. May be repeated for credit.

Rules & Requirements
Grading Status: Letter grade.

ECON 981. Seminar in Labor. 1-3 Credits.
The course introduces students to research topics in labor economics. May be repeated for credit.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

ECON 985. Dissertation Workshop in Applied Microeconomics. 1-3 Credits.
Permission of the instructor. Discussion of current research in applied microeconomics. Student presentations of dissertation and other research. Oral and written reports on dissertation research.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

ECON 990. Special Topics. 1-3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

ECON 992. Master's (Non-Thesis). 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

ECON 994. Doctoral Research and Dissertation. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

Contact Information

Department of Economics

Visit Program Website (http://econ.unc.edu/graduate/)

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SCHOOL OF EDUCATION (GRAD)

The School of Education, in keeping with the general goals of the University of North Carolina at Chapel Hill, embraces a threefold mission of teaching, research, and service. With these purposes in mind, the school's graduate programs are designed to meet the needs of professional educators who seek to further their knowledge, understanding, and skills relating to educational processes. These professionals vary in their career orientations. Some are employed in (or wish to become employed in) educational institutions, and others, in agencies and organizations performing noninstructional educational functions.

The research mission involves continuing inquiry into the development of knowledge of the teaching-learning process; human development; the organization of schools and educational agencies; the historical, social, and philosophical bases for educational institutions; and the processes of program development and implementation.

The service mission provides public and private institutions and agencies with the benefits of research and consultation, thereby enhancing these institutions and agencies' ability to satisfy their educational objectives.

The teaching mission involves the faculty and graduate students in applying the knowledge base in field settings and translating it into coursework.

The School of Education has attempted to present correct information as of the publication this catalog. However, this information does not establish a contractual relationship, and the school reserves the right to alter any statement when review is complete. Therefore, applicants should contact the School of Education to obtain updated information on programs prior to final application procedures.

Licensure

The School of Education serves as the Licensure Officer and recommends eligible graduates of its approved education programs to the North Carolina State Department of Public Instruction for licensure as teachers, school administrators, school counselors, school psychologists, and curriculum and instruction specialists. In addition, the school recommends licensure candidates from the following University degree programs: the School of Information and Library Science (for school media coordinators), the School of Social Work (for school social workers), and graduates of the speech-language pathology program in the Division of Speech and Hearing Sciences.

The School of Education, and other educator preparation programs at UNC, prepare candidates to work in B-12 learning environments and earn professional licensure in North Carolina upon graduation. Licensure information provided here is accurate at the publication of the catalog. Applicants should consult with individual programs for updated information. Professional licensure is recommended for Master of Arts in Teaching graduates at the master's level for the initial Professional Educator's License. Graduates from the Master of Education in School Counseling are recommended at the advanced specialist level. The master's program for experienced teachers provides the opportunity for practicing teachers who hold a current teaching license to achieve the advanced competencies of master's-level licensure. School administrators are eligible for licensure at the master's (for school principals) level through the Master of School Administration Program, and specialist and/or doctoral levels (for school superintendents) through the Doctor of Education in Educational Leadership Program. School psychologists are eligible for licensure at the specialist and/or doctoral level.

To apply for an NC Professional Educator's Licenses the graduate must submit an application through the N.C. Department of Public Instruction's online licensure system. Paper forms are no longer submitted by the UNC School of Education Licensure Office. The UNC School of Education Licensure Office reviews and either approves or denies all licensure applications routed to UNC through the N.C. Department of Public Instruction online licensure system. More information about applying for N.C. licensure is available on the School of Education website (https://ed.unc.edu/academics/licensure/).

The programs described in this catalog are approved by the North Carolina Department of Public Instruction, the State Board of Education, and the Council for the Accreditation of Educator Preparation, with specialty accreditation from the Council for the Accreditation of Counseling and Related Educational Programs (CACREP) and the American Psychological Association (APA).

Note: Additional information may be found on the School of Education's website *(*http://soe.unc.edu*).*

The School of Education offers three doctoral degrees, the doctor of philosophy, the doctor of education, and the doctor of school psychology:

1. The doctor of philosophy (Ph.D.) in education with four research areas (applied developmental sciences and special education; culture, curriculum, and teacher education; learning sciences and psychological studies; policy, leadership, and school improvement.)
2. The doctor of education (Ed.D.) with two research areas (K-12 educational leadership and organizational learning and leadership.)
3. The doctor of philosophy (Ph.D.) in school psychology is a separate Ph.D. program that is APA- and NASP-approved and that prepares school psychologists to work in school, clinical, and hospital settings.

The master's programs include the following degrees:

1. The master of arts in teaching (M.A.T.) with a concentration in middle grades or secondary education for English, social studies, mathematics and science; elementary education; K–12 special education (General Curriculum.)
2. The master of education (M.Ed.) in school counseling.
3. The master of education for experienced teachers in Early Childhood Intervention and Family Support (ECIFS).
4. The master of school administration (M.S.A.)

The Graduate School administers all but the master of school administration program and the master's for experienced teachers in Early Childhood Intervention and Family Support (ECIFS), which the School of Education administers.

Two off-campus, part-time programs are offered: the master of education (M.Ed.) for experienced teachers (ECIFS) and the flexible master of school administration (M.S.A. Flex). The current content specialty areas for the M.Ed. program is early childhood intervention and family support (birth through kindergarten). The ECIFS content areas offers admission every spring for students to begin their program of study in May. It is a

two-year program for part time students who are practicing professionals in the early childhood field.

The part-time, off-campus M.S.A. Flex program is designed for working professionals and stretches the normal two-year program offered over an extended period of two and a half academic years, beginning each January with a new cohort. While the program emphasizes preparation for the school principalship, individuals with other educational career aspirations (such as district-level leadership positions) will find it appropriate.

Education Degree Requirements

M.A. Degree Requirements

1. A bachelor's degree from an accredited four-year university
2. Completion of a minimum of 30 hours of graduate coursework and two consecutive semesters in residence
3. Completion of all required and elective courses within five years of admission
4. A grade of Pass on a written comprehensive exam or approved equivalent
5. Filing the degree application no later than the date specified in the academic calendar
6. A grade of P or better is required in all EDUC courses. One grade of F in an EDUC course makes a student academically ineligible to continue in the program

M.Ed. Degree Requirements

1. A bachelor's degree from an accredited four-year college or university
2. Completion of the minimum required number of semester hours of graduate coursework. (Check with individual programs to ascertain the minimum requirements.)
3. Completion of all required and elective courses within five years of admission
4. A grade of Pass on a written comprehensive examination or approved equivalent
5. Filing the degree application no later than the date specified in the academic calendar
6. A grade of P or better is required in all EDUC courses. One grade of F in an EDUC course or 9 hours of L (Low Pass) makes a student academically ineligible to continue in the program
7. Completion of at least 1 credit hour (50+ in-person hours) in an inclusive early childhood setting in the summer as part of the ECIFS program.

M.A.T. Degree Requirements

1. A bachelor's degree from an accredited four-year college or university
2. The equivalent of an undergraduate major in the chosen subject area
3. Completion of a minimum of 40 semester hours of advanced coursework
4. Completion of at least two consecutive semesters in residence
5. Completion of all required and elective courses within five years of admission
6. Passing scores on the Teaching Performance Assessment (edTPA), which synthesizes coursework and experiences as related to state and national standards and is required for North Carolina teaching license recommendation
7. Passing the PRAXIS II pedagogy exams; passing the Foundation of Reading (for elementary and K–12 Special Education candidates)
8. Passing the PRAXIS II exams related to *optional* add-on licensure area of K–12 ESL or Special Education as specified by the N.C. Department of Public Instruction
9. Successful completion of the full-time student teaching internship
10. Filing the degree application no later than the date specified in the academic calendar
11. A grade of P or better is required in all EDUC courses. One grade of F in an EDUC course makes a student academically ineligible to continue in the program

M.S.A. Degree Requirements

1. A bachelor's degree from an accredited four-year college or university
2. Completion of the minimum required number of semester hours of graduate coursework. (Check with individual programs to ascertain the minimum requirements.)
3. Completion of a full year (10 months) or 500 hours (part-time) administrative internship
4. Completion of a portfolio of artifacts that demonstrate mastery of N.C. Standards for School Executives
5. A grade of P or better is required in all EDUC courses. One grade of F in an EDUC course makes a student academically ineligible to continue in the program. Nine credits of grades of L make a student academically ineligible to continue in the program.

Ed.D. (Doctor of Education) Degree Requirements

The School of Education offers two concentrations within the Ed.D. (Doctor of Education) Degree: a concentration in K-12 Educational Leadership and a concentration in Organizational Learning and Leadership.

Ed.D. (Doctor of Education) Concentration in K-12 Educational Leadership

The Ed.D. first concentration in K-12 Educational Leadership is designed primarily for leadership roles in the K-12 public school districts throughout the nation. Degree requirements include:

1. A bachelor's degree from an accredited four-year college or university and a master's degree in the field of educational leadership, administration, or an approved field.
2. Students without such a master's degree can still be admitted into the program as judged by faculty review but may not be able to earn a superintendent licensure. Please check with the program coordinator for details.
3. Ed.D. students have eight years to complete both the coursework and the dissertation.
4. A grade of P or better is required in all EDUC courses. One grade of F - or two grades of L - in an EDUC course makes a student academically ineligible to continue in the program.
5. Completion of 10 to 12 semester hours of research courses or research experiences as specified in the individualized program of study.
6. Completion of a supervised field experience in the student's area of specialization is required for the educational leadership program, with additional requirements for the curriculum and instruction supervision licensure.
7. A grade of Pass on a written and oral comprehensive examination.
8. A grade of Pass on an written and oral preliminary examination, which is the proposal defense of the capstone.

9. Successful completion of a final written and oral examination, which is the final defense of the capstone.
10. Filing a degree application no later than the date specified in the academic calendar.

Ed.D. (Doctor of Education) Organizational Learning and Leadership

The second Ed.D. concentration in Organizational Learning and Leadership is designed primarily to equip students with the tools they need to empower the people around them to deliver on their organization's goals and mission. Degree requirements include:

1. A bachelor's degree from an accredited four-year college or university.
2. Ed.D. students have eight years to complete both the coursework and the dissertation.
3. A grade of P or better is required in all EDUC courses. One grade of F in an EDUC course makes a student academically ineligible to continue in the program.
4. Completion of 12 semester hours of research courses or research experiences as specified in the program of study.
5. Completion of a capstone project.
6. A grade of Pass on an oral examination.
7. Successful completion of a final oral examination, which is the defense of the capstone.
8. Satisfactory completion of a research- or practice-based capstone.
9. Filing a degree application no later than the date specified in the academic calendar.

Ph.D. (Doctor of Philosophy) Degree Requirements

In addition to the requirements of The Graduate School for the Ph.D., the School of Education also requires:

1. Full-time enrollment until all formal coursework is completed.
2. Completion of all required coursework on an approved individual program of study consisting of required and elective courses
3. A grade of P or better is required in all EDUC courses. One grade of F in an EDUC course makes a student academically ineligible to continue in the program.

Programs of Study

Master of Arts (M.A.) in Education

Master of Arts in Educational Innovation, Technology, and Entrepreneurship

The M.A. in Educational Innovation, Technology, and Entrepreneurship (MEITE) is a professional degree program that prepares its graduates for careers in the educational technology field, both in the public and private sectors. Students from all backgrounds join the program, and MEITE enrolls students into either full-time or part-time cohorts that begin in August and January.

The MEITE program is 36.0 credit hours, and it consists of a "core" group of courses (12.0 credit hours), one specialized course track (12.0 credit hours), a yearlong internship experience (6.0 credit hours), and a summer thesis project (12.0 credit hours). There are four specialized tracks, and students are to complete one of the following track options:

- *The Edupreneur* utilizes the core concepts for design thinking to develop and prepare for the launching of unique, innovative ventures in the field of educational technology. This track is ideal for students who wish to begin their own startup or join an early-stage startup.
- *The Innovative Specialist* gains a deep understanding of the trends, research, and budgetary issues related to leadership, business, and innovation in educational organizations. This track prepares students to work in the innovation departments of educational organizations, including companies, schools, districts, and non-profits.
- *The Learning Engineer* uses the learning sciences and design thinking principles along with data and analytics to improve designers' choices, instructors' practices, and learners' experiences and outcomes. This track builds the knowledge and skills needed to work in school districts, universities, textbook companies, eLearning providers, training departments, and non-profit organizations.
- *The Human-Machine Interactionist* learns the attributes necessary for effective human-machine interaction from an end-user perspective, which includes the visual aesthetics, intuitive design, technical knowledge, and text transactions. This track prepares students to join firms developing digital products for teaching, learning, productivity, and efficiency.
- *Adaptive Learning Analyst* trains students in techniques for evaluating assessment data reported by a range of instructional technologies and uses that data to improve teaching and student learning outcomes

Throughout the program, students will collaborate with the MEITE program director, advisor, and faculty, who work to ensure the students have a positive experience in the classroom, at their internship, and after the program.

Master of Education (M.Ed.) for Experienced Teachers

The M.Ed. for experienced teachers is a part-time, field-based program for teachers currently employed in local schools and community-based programs, public and private. The program is designed to assist licensed or unlicensed teachers/educators having at least two years of experience in reflecting upon their experiences and developing further skill and art as professional educators. It is a 30-to-34-hour program (depending on the content area) that begins in the summer and extends through the subsequent two years. Courses during the traditional calendar school year are offered generally from 5:15 p.m. to 8:00 p.m. Courses will be offered in a Hyflex format (with synchronous sessions students may join in-person OR remotely and asynchronous sessions) For specifics about content areas, please visit the School of Education's website (http://soe.unc.edu) or call (919) 966-1346.

Master of Education (M.Ed.) in School Counseling

The M.Ed. program in school counseling is an intensive accelerated experience-including a year-long school-based practicum and internship-that prepares professionals to serve in schools and join school communities. Completion of the program leads to specialist-level licensure as a K-12 school counselor in the state of North Carolina.

The program is predicated on the Strengths-Based School Counseling (SBSC) model, which asserts that the school counselor's primary role is to promote and advocate for positive youth development for all students and for the environments that enhance and sustain that development.

The SBSC approach characterizes positive youth development as nurturing and enhancing empirically identified student strengths or

competencies rather than focusing on student weaknesses and problem areas.

SBSC provides a framework to guide the practice of school counseling in the 21st century that is both compatible with and operationalizes many of the features of the ASCA National Model for School Counseling Programs.

Strengths-based school counselors employ a variety of direct (e.g., counseling, classroom guidance) and systemic (e.g., consultation, advocacy) interventions to promote culturally relevant student development in the academic, personal/social, and career domains. The strengths-based perspective identifies the counselor as a school leader who works with students, teachers, administrators, parents, and other members of the community and promotes strengths-enhancing environments for all students.

Requirements

The M.Ed. program in school counseling consists of four semesters of full-time study — 60 semester hours of coursework over a 14-month period. Students normally begin classes during the last week in May. Students finish the program by August of the year following their entrance into the program.

Because the 60 semester hours of coursework are completed in a 14-month period rather than in the more traditional two-year period for programs of this type, this is a concentrated and intense program. As a result, only full-time students are admitted, and students may not enter the program at times other than the one specified above.

1. Thirty (30) hours of content courses
2. Twenty-four (24) hours of skill/clinical courses
3. Six (6) hours of graduate-level electives, approved by the advisor.

The fall practicum runs from August through October. The fall internship runs from October through December. Students must spend a minimum of 100 (40 direct service) clock hours in the practicum and 600 (240 direct service) hours in the internship in their field experiences during the August to June K–12 public school year. The schedule for accumulating the required 700 hours is typically completed in three full-time days per week at the school site and/or arranged with both the field supervisor and EDUC 705 instructors.

Master of Arts in Teaching (M.A.T.)

The Master of Arts in Teaching (M.A.T.) program is designed for individuals wishing to teach elementary school (grades K–6), middle school (grades 6–8) or high school (grades 9–12) in the subject areas in math, science, English, or social studies, Special Education General Curriculum (grades K-12). This field-based, student-centered, cohort model program relies on partnerships between public schools and the University and provides the context of real classrooms as the motivation for students to connect theory and practice. Through the use of its signature pedagogy of experiential education, the M.A.T. is a professional preparation program that is designed to prepare candidates for initial teaching licensure in North Carolina by providing opportunities for students to accomplish three general objectives:

1. Expand their understanding of methodology in a content specialization.
2. Gain an understanding of curriculum and instruction, and
3. Provide knowledge of the social and psychological foundations of education

The M.A.T. is a 12-month, full-time program that requires 40+ hours of coursework. There are optional add-on programs (12 hours each) in special education and English as a second language, which if taken, extend the program length and cost by approximately two months. Seminars, methods, contexts, learner, and learning courses are ongoing throughout the M.A.T and are both interdisciplinary and subject area oriented.

The program of study and more detailed program and application information can be found on the School of Education's website. (http://soe.unc.edu/academics/mat/#program-details)

Some clinical placements could include multiple settings and levels of instruction.

Seminars, methods, contexts, learner, and learning courses are ongoing over the entire 12-month period and are both interdisciplinary and subject area oriented.

Master of School Administration (M.S.A.)

The M.S.A. FLEX programs prepare individuals to lead schools and other educational organizations for the schools of North Carolina and the nation. These programs include three dimensions:

1. Awareness (i.e., acquiring concepts, information, definitions, and procedures)
2. Understanding (i.e., interpreting knowledge to school environments, integrating concepts with practice, and using knowledge and skills in context)
3. Knowledge (i.e., applying knowledge and skills to specific problems of practice)

While most of those who complete this program move into administrative positions at the school-site level, some assume roles within state, regional, or national organizations that focus on educational professional development, research, or policy making. The completion of this program leads to eligibility for licensure from the North Carolina State Department of Public Instruction and qualifies graduates for administrative certification in most states. For additional information, please visit the school's website (http://soe.unc.edu).

Doctor of Education (Ed.D.) Concentration in K-12 Educational Leadership

The K-12 Educational Leadership doctoral concentration develops students primarily for leadership roles in K–12 public school districts throughout the nation. The program prepares students to excel in ever-changing national, state, and local educational environments. Courses are offered in the evenings during the fall and spring terms, in the summer and on weekends. Most students are enrolled part time and typically take two courses per semester.

Students may transfer up to nine credit hours, subject to program faculty approval. Credits must have been taken at the graduate level, for a grade, within the past five years.

The program of study for the Ed.D. in educational leadership can be found on the School of Education's website (https://ed.unc.edu/).

The School of Education is approved by the North Carolina Department of Public Instruction to recommend the superintendent license in the areas of educational leadership at the Specialist/S level and Doctoral/D level. More information on the required programs of study and specific

licensing requirements can be found on the School of Education's website (https://ed.unc.edu/).

An Ed.D. student who does not have a master's degree in educational leadership or school administration, may not be able to obtain a superintendent's license through the program but may still earn the doctoral degree.

Doctor of Education (Ed.D.) in Organizational Learning and Leadership

The online Ed.D. concentration in Organizational Learning and Leadership immerses students in leadership theories and organizational research methods in order to lead organizational learning and improvement efforts. Courses are offered online with a blend of asynchronous modules and one virtual synchronous meeting for each course weekly in the evenings. Students are enrolled typically take two courses per semester including fall, spring, and summer.

Transfer credit hours are not considered for this program.

The program of study for the Ed.D. in educational leadership can be found on the School of Education's website (https://ed.unc.edu/).

The program offers an optional immersion experience once each year which will provide a dynamic learning opportunity that fosters community building, connects students with faculty, and offers a platform for exploration, exposure to real-world leadership practices, and networking with peers from other programs within the UNC School of Education. Key aspects of the immersion experience include community building, familiarity with program faculty, exploration of opportunities, and mentoring connections with leaders in practice.

Doctor of Philosophy (Ph.D.) in Education

The schools in North Carolina and in the nation face myriad complex issues and challenges. These challenges range from meeting the educational and social-emotional needs of diverse student populations to designing, implementing, and evaluating educational programs within cultural contexts. The Ph.D. in education prepares leaders in educational research who understand these issues and who can improve educational practice using state-of-the-art knowledge and research skills. The design of the program fosters collaboration among faculty members and students from diverse disciplines. Such cooperation across levels and areas of interest provides the opportunity to develop relevant research agendas. Graduates of this program are prepared for leadership positions in research and teaching at major universities and institutes in the state and nation.

The Ph.D. in education is a single program with four research emphases: applied developmental sciences and special education; culture, curriculum, and teacher education; learning sciences and psychological studies; policy, leadership, and school improvement. These five fields blend areas of inquiry that were formerly discrete.

The following courses are required for all School of Education Ph.D. students:

Code	Title	Hours
EDUC 710	Introductory Statistical Methods	3
EDUC 824	Fundamentals of Educational Research	3
EDUC 825	Development and Learning	3
EDUC 830	Qualitative Research Methods I: Philosophical Foundations of Qualitative Research	3
One advanced research methods course (varies)		
EDUC 867	Issues in Educational Policy and Research	3
EDUC 876	Histories of School and Schooling	3

The mission of the applied developmental science and special education (ADSSE) program area is to train doctoral students in the interdisciplinary, theoretical foundations of applied developmental science and special education. These foundations will provide young scholars with the tools to advance knowledge about human development from birth through adolescence, with a particular focus on studying children/students at risk for learning and behavioral challenges. This mission is accomplished by offering research perspectives in

1. the developmental trajectories of families and children/students from diverse sociocultural backgrounds in the multiple contexts in which they live, including school, home, neighborhoods, and communities, as well as a grounding in
2. evidence-based models of prevention that seek to provide equitable opportunities for learning and successful adjustment for all children by emphasizing education and instruction directed towards individual differences among learners.

The ADSSE program is dedicated to developing a new generation of interdisciplinary scholars who have acquired a rigorous research knowledge base with expertise in a quantitative, mixed method, and single case methodology. Students work closely with their advisor and committee members to develop the skills and experiences necessary to work as leaders in a variety of research settings, including institutions of higher education, governmental entities at the state or federal level, and private research firms. Students may choose one of three specializations within the ADSSE strand: 1) Applied Developmental Science; 2) Special Education; and 3) Sociocultural Diversity. Throughout the doctoral experience, students will engage in research activities, grant writing, and the dissemination of their research and prevention efforts, such as presenting their research at local, state, and national conferences, and teaching college-level classes.

The mission of the applied developmental science and special education (ADSSE) program area is to train doctoral students in the interdisciplinary, theoretical foundations of developmental science. These foundations will provide young scholars with the tools to advance knowledge about human development from birth through adolescence, with a particular focus on studying children/students at risk for learning and behavioral challenges. This mission is accomplished by offering research perspectives in

a. the developmental trajectories of families and children/students from diverse sociocultural backgrounds in the multiple contexts in which they live, including school, home, neighborhoods, and communities, as well as a grounding in
b. evidence-based models of prevention that seek to provide equitable opportunities for learning and successful adjustment for all children by emphasizing education and instruction directed towards individual differences among learners.

The ADSSE program is dedicated to developing a new generation of interdisciplinary scholars who have acquired a rigorous research knowledge base with expertise in a quantitative, mixed method, and single case methodology. Graduates will work closely with their advisor and committee members to develop the skills and experiences necessary to work as leaders in a variety of research settings, including institutions of higher education, governmental entities at the state or federal level,

and private research firms. Throughout the doctoral experience, students will engage in research activities, grant writing, and the dissemination of their research and prevention efforts, such as presenting their research at local, state, and national conferences, and teaching college-level classes.

The Culture, Curriculum and Teacher Education strand is designed for future scholars and researchers who will study the linguistic, social, and cultural contexts of education and how culture, language, and education are produced locally, nationally, and globally. This strand prepares future scholars, researchers, and faculty members who work in the areas of teacher education including general and discipline specific fields (e.g., mathematics, science, and social studies); multiple and critical literacies; social and cultural foundations of education; the intersectionality of race, gender, language, sexual orientation, and class; qualitative research methods broadly conceived; and how all to these contribute to creating social and educational inequities. Our focus is both critical and constructive. Our efforts first describe, interpret, and critique current practice and belief and then move to strategizing about how to create a more equitable society and world. We prepare scholars to be first rate educators, theorists, and qualitative research methodologists—and advocates for change.

The Learning Sciences and Psychological Studies (LSPS) Ph.D. program focuses on how people learn, drawing on interdisciplinary theory and research from biological, cognitive, social, and cultural perspectives. LSPS students use this knowledge to improve education in formal settings like schools and colleges, as well as informal settings that range from museums and community centers to video games and virtual reality. Our students also gain the foundational skills necessary to conduct rigorous scientific research, including extensive training in state-of-the-art quantitative and qualitative research methodology. Students interested in LSPS can elect to concentrate in a number of areas, including mathematics education, science education, educational technology, cognition, and quantitative methods and evaluation. In particular, many of our research faculty specialize in the design and evaluation of digital learning technologies, and the implications of these technologies for diverse, equitable, and inclusive education in today's society. As one of only 21 Ph.D. programs worldwide recognized by the International Society of the Learning Sciences, our graduates are uniquely positioned to be leaders among the next generation of educational researchers, prepared for careers in industry, government, and academia.

The aim of the Ph.D. program in policy, leadership, and school improvement (PLS) is to prepare leaders who will influence the direction of educational organizations at home and around the world. The program produces scholars, administrators, and analysts for leadership roles in K–12 systems, universities, research organizations, and policy-making bodies. It does so by developing students' understanding of the societal, political, and economic conditions affecting schools; the capacity to analyze educational problems and their proposed solutions; and the ability to design innovations and implementation processes that work.

The Ph.D. program in PLS is among the few programs at elite public universities in the nation to offer opportunities to study with a faculty whose work in K–12 administration, education policy, and school improvement is internationally known. As leaders in these areas, our faculty works collaboratively with students to develop research questions and hypotheses, study them in state and national settings, and link findings to practice. Faculty and students in PLS are engaged in the examination and critique of today's important and contested issues in education, including

- Teacher quality
- Turn-around schools
- High school effectiveness
- Resource allocation
- Principal instructional leadership
- Issues of class, gender, immigration, and race in education

In addition to disciplinary core and research courses, students pursue programs of study that include courses in policy making, education program evaluation and policy analysis, school law, leadership, educational innovation, implementation, and taking reforms to scale. In combination with courses in quantitative, qualitative, and mixed research methods, students develop their research skills through a professional seminar and assistantships with faculty members. Committed to professional service, our faculty members are also members of editorial boards and advisory forums at the national, state, and local levels. They also work directly with school systems, consulting on issues of staffing, instructional delivery, and governance. PLS faculty members are currently working with the federal Race to the Top initiative in North Carolina and a national education research center funded by the U.S. Department of Education.

Engaging the tensions of individual freedom and collective responsibility and addressing both local and national issues and their histories, as well as international perspectives, scholarship in teacher education and curriculum includes school-based inquiry as well as theoretical studies of pedagogy, knowledge, and the construction of democratic communities. This inquiry flourishes when it employs a variety of research methods, qualitative and quantitative research as well as historical, literary, and philosophical studies. Students will select research courses that will complement their own intellectual skills and prepare them to address the problems they wish to study. Students in the Ph.D. program are required to maintain full-time enrollment through the completion of coursework, with the expectation that they will graduate in three to four years. Programs of study are available on the School of Education's website (http://soe.unc.edu).

Doctor of Philosophy (Ph.D.) in School Psychology

The goal of the UNC–Chapel Hill doctoral School Psychology program is to prepare school psychologists as scientist-practitioners to assume leadership positions in academic, research, and applied settings (e.g., schools, clinics and hospitals). To this end students study both broad and general knowledge in psychology, obtain knowledge, skills, and competencies specific to a professional psychologist, and participate in a wide variety of supervised clinical and research activities designed to prepare them for these positions. The UNC doctoral program is accredited by the American Psychological Association (http://www.apa.org) and through this accreditation has approval by the National Association of School Psychologists (http://www.nasponline.org). All applicants are required to have either an undergraduate degree in psychology, 18 credit hours of psychology courses, or a master's degree in a related field.

The program emphasizes a prevention/intervention approach to enhancing the academic and social/emotional competencies of children and youth. It also emphasizes an ecological, systems perspective, recognizing that children and youth reside within increasingly complex situations, including their families, neighborhoods, communities, and school. Furthermore, the interdisciplinary nature of the school system is emphasized, and students develop the skills and understanding necessary to communicate with other school professionals as well as parents and community agencies as part of a multidisciplinary team.

Finally, intervention research and implementation science are the used as the framework from which psychologists can help manage the research to practice gap and learn to successfully promote evidence-based practices. Students are expected to develop expertise in assessment, intervention, prevention, consultation, evaluation, and research, gaining increasingly advanced knowledge and skills as they progress through the program. Within the educational setting, school psychologists serve numerous clients including pupils, teachers, supporting educational personnel, and parents. In community and clinical settings students gain experience providing services to high needs populations of children, youth and families. Students complete internships in school, clinic and hospital settings in North Carolina and around the nation and most participate in the APPIC process. Completion of the program leads to eligibility for licensure from the State Department of Public Instruction (http://www.ncpublicschools.org/licensure/), NASP' National Certification for School Psychology and the North Carolina State Psychology Board.

Professors

Brian Boyd
Lora Cohen-Vogel
Thurston (Thad) Domina
Dorothy Espelage
Jeff Greene
Jill Hamm
Annemarie Hindman
Sherick Hughes
Roger Mills-Koonce
Troy Sadler
Keith Sawyer
Joseph Williams

Associate Professors

Janice Anderson
Matthew Bernacki
Cheryl Mason Bolick
Dionne Cross Francis
Nianbo Dong
Christian Ehret
Jocelyn Glazier
Dana Griffin
Peter Halpin
Eric Houck
Kara Hume
Ethan Hutt
Daniel Klasik
Steve Knotek
Marisa Marraccini
Stephanie Shelton
James Trier

Assistant Professors

Casey Calhoun
Courtney Hattan
Todd Jensen
Kathryn Leech
Constance Lindsay
Thi Cam Ha Nguyen
Lauren Sartain

Clinical Professor

Helyne Frederick

Clinical Associate Professors

Todd Cherner
Nicole Damico
Jennifer Diliberto-Fender
Sandra Evarrs
Martinette Horner
Diana Lys
Kristin Papoi
Yuliana Rodriguez

Clinical Assistant Professors

Jemilia Davis
Emily Halpin
Lewis Hatcher
Dana Riger
Christopher Scott
Carrol Warren

EDUC

Advanced Undergraduate and Graduate-level Courses

EDUC 400. Autism in Our Communities: An Interdisciplinary Perspective. 3 Credits.
Students have 30 hours of service-learning with individuals with autism at community partner sites. Class discussions introduce students to diverse topics related to autism spectrum disorder. This is an APPLES course.

Rules & Requirements

IDEAs in Action Gen Ed: HI-SERVICE.
Grading Status: Letter grade.
Same as: SPHS 400.

EDUC 401. Childhood Development: Prenatal Birth to Age 12. 3 Credits.
This course examines the field of child development as it contributes to the teaching and learning of children in early childhood and elementary educational settings, ages prenatal to age 12.

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING.
Grading Status: Letter grade.

EDUC 402. Models of Early Childhood Service Delivery. 3 Credits.
This seminar serves as an introduction to the field of child development and early childhood education and special education. Students learn about the primary professional disciplines and agencies serving young children and their families. Current policy, recommended practices, and research innovations are reviewed.

Rules & Requirements
Grading Status: Letter grade.

EDUC 403. Individuals, Families, and Communities in Diverse Contexts. 3 Credits.
This course examines issues of diversity among and across families, in order to better prepare students for human service fields in a variety of settings such as clinics, schools, advocacy, and other organizations.

Rules & Requirements
Grading Status: Letter grade.

EDUC 404. Infant/Toddler Assessment and Intervention. 3 Credits.
Restricted to majors. Permission of the instructor for nonmajors. Provides students with knowledge of program models and curricula/intervention strategies for working with infants and toddlers with and without disabilities. Information is provided regarding identification and assessment strategies for infants, toddlers, and two-year-olds. Program models for working with families are emphasized.

Rules & Requirements
Requisites: Prerequisite, EDUC 401.
Grading Status: Letter grade.

EDUC 405. Parenting and Family Life Education. 3 Credits.
This course is a lifespan approach to parent-child relationships and implications for enhancing the well-being of families. A major focus will be on research and theory regarding parenting during the different stages of the lifespan.

Rules & Requirements
Grading Status: Letter grade.

EDUC 408. Research Methods in Human Development. 3 Credits.
An introductory examination of human development and family research methods designed to provide an understanding of scientific inquiry, methodology, measurement, test construction, scaling, and statistical terms and techniques.

Rules & Requirements
Grading Status: Letter grade.

EDUC 410. Families and Communities in Diverse Contexts for Youth. 3 Credits.
This course is an exploration of the research and theory about programs that promote youth development and prevent youth problems in the diverse contexts where youth function (i.e., home, school, outside of school activities, sports, peer networks, etc.). Career options (e.g., social work, law enforcement, teaching, and community outreach work) will also be explored through sociocultural lenses.

Rules & Requirements
Grading Status: Letter grade.

EDUC 411. Making Liberal Arts "Work". 3 Credits.
Learn how to translate the outcomes of a liberal arts education to the world of work. The course will engage students in connecting one's intellectual and practical learning, as well as individual and social responsibilities to contemporary career skills and life-career design. Critical reflection on concurrent and diverse internship experience is utilized to contextualize skills and further explicate career identity working in a knowledge and digital ecology. Permission of the instructor for students with fewer than 8 hours of weekly work.

Rules & Requirements
IDEAs in Action Gen Ed: FC-KNOWING, HI-INTERN.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

EDUC 413. Language and Literacy Learning. 3 Credits.
Permission of the instructor for nonmajors. This course covers the theoretical and developmental aspects of language and literacy processes and practices. The course will cover reading, writing, speaking, listening and viewing practices, birth to age 12.

Rules & Requirements
Grading Status: Letter grade.

EDUC 415. Schooling of Immigrant Children. 3 Credits.
This course introduces students to immigration-related schooling issues in the United States and North Carolina. Students will use scholarly writings by both theorists and practitioners as well as narratives from immigrant students and their parents to study the impacts of migration on education as a transnational, transcultural, and translingual process. The course includes an overview of immigration-related education policies and practices; issues of assimilation, acculturation, and identity; and other relevant topics.

Rules & Requirements
Grading Status: Letter grade.

EDUC 416. Curriculum Integration: Science, Math, and Technology. 3 Credits.
Permission of the instructor for nonmajors. The focus of this course is children's development in mathematical and scientific ways of knowing and the use of technology to support this development.

Rules & Requirements
Grading Status: Letter grade.

EDUC 418. Ethics of Care for the Hospitalized Child and Family. 3 Credits.
The course introduces learners to issues related to pediatric care during hospitalization and illness in childhood and adolescence. It provides an overview of the multiple roles that health professionals, families, and child life specialists play in providing support for recovery and bereavement. Additionally, it explores the developmental and psychological needs of hospitalized children, their families, and those who provide services to children. The course will also examine the ethics of care for child life specialists.

Rules & Requirements
IDEAs in Action Gen Ed: FC-VALUES.
Grading Status: Letter grade.

EDUC 421. Community Organizations and Children I. 1 Credits.
Provides an understanding of the community contexts of schools and an experience working in community group. This is the first semester of two-semester course.

Rules & Requirements
Grading Status: Letter grade.

EDUC 422. Community Organizations and Children II. 1 Credits.
Provides prospective teachers with an understanding of the community contexts of the schools. Second semester of a two-semester course.

Rules & Requirements
Requisites: Prerequisite, EDUC 421.
Grading Status: Letter grade.

EDUC 461I. Exploring Social Determinants of Health Across Populations. 3 Credits.
This seminar allows students to explore how social determinants of health affect the health of populations.

Rules & Requirements
IDEAs in Action Gen Ed: HI-SERVICE.
Grading Status: Letter grade.
Same as: NURS 461I.

EDUC 464. Teaching Profession. 3 Credits.
Introduction to teaching. Course covers foundations and philosophies of education, current issues, and trends in public schooling.

Rules & Requirements
Grading Status: Letter grade.

EDUC 465. Introduction to Teaching. 2 Credits.
Offered concurrently with EDUC 466. Restricted to students admitted to the middle grades teacher education program. Initiates students into the teaching profession. The course stresses what it is like to be a teacher, with concurrent emphasis on the life of the student and the study of schools.

Rules & Requirements
Grading Status: Letter grade.

EDUC 469. Developing Skills for Teaching. 3 Credits.
Helps students develop a variety of basic teaching skills used by classroom teachers. This course will be conducted primarily as a laboratory course.

Rules & Requirements
Requisites: Prerequisites, EDUC 465 and 466.
Grading Status: Letter grade.

EDUC 470. Therapeutic Value of Play. 3 Credits.
This course examines various theoretical models of play and development in clinical, health, and school settings. Students are taught basic skills to create therapeutic play environments and to respond to the intellectual, emotional, and social needs of children in schools, hospitals, and other therapeutic settings. HDFS majors or permission from the program coordinator.

Rules & Requirements
Grading Status: Letter grade.

EDUC 472. System Improvement and Implementation at Scale. 3 Credits.
A collaborative, experiential, and data-driven course for understanding and facilitating organizational learning and change. Students will complete an "improvement research project" based on their own personal interests and/or in partnership with practitioners in an organizational setting. Students will direct their course of study around three core questions: What is the specific problem I am trying to solve? What change might I introduce and why? How will I know whether the change is actually an improvement?

Rules & Requirements
Requisites: Prerequisite, EDUC 257.
Grading Status: Letter grade.

EDUC 475. Child and Family Health. 3 Credits.
This course serves to integrate our core field of human development and family studies with other public health issues and professions to help improve understanding of factors impacting the health and well-being of children, youth, and families. The course blends human development theories, family systems theories, and health promotion theories to better understand the health experiences of individuals across the lifespan.

Rules & Requirements
Grading Status: Letter grade.

EDUC 480. Resource Management for Individuals and Families. 3 Credits.
This course examines individual and family resource management. Students will develop skills related to importance of time management, financial planning and budgeting, consumer decision-making, and allocation of resources to the well-being of children, youth, and families. The course also examines issues related to grant writing, consumer economics, conflict resolution, poverty alleviation, work-family balance, and stress management.

Rules & Requirements
Grading Status: Letter grade.

EDUC 493. Practicum. 1-6 Credits.
Permission of the instructor for nonmajors. Students gain familiarity with the operations and complexity of teaching. Students observe instruction, assist in teaching, learn about the curriculum and specific resources, interact with school personnel, work with students, and apply skills learned in previous courses. Prepares students for internship or student teaching.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

EDUC 496. Independent Study. 1-3 Credits.
Permission of the instructor. Provides readings and research under the direction of a faculty member. May be repeated for a maximum of six credit hours.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

EDUC 501. Adolescent and Adulthood Development: A Cross-Cultural. 3 Credits.
This course examines biological, cognitive, psychological, and social development in adolescence and adulthood. Students will examine these milestones in development as they vary by gender, race/ethnicity, sexual orientation, ability, socio-economic status, education, and other contextual/cross-cultural factors. The course includes an examination of how adolescents and adults function within families, social networks, schools, media, and work.

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING.
Grading Status: Letter grade.

EDUC 503. Leadership Seminar. 1-3 Credits.
Course asks students to consider what it means to participate in schools as educational leaders. Students consider how to collaborate effectively with school colleagues, advocate for children and families, participate in the politics of schools and education, and examine what it means to be change agents in classrooms and schools.

Rules & Requirements
Grading Status: Letter grade.

EDUC 504. Learning in the Modern World. 3 Credits.
Students learn about current educational emphases and controversies as well as what the research and scholarship in the fields of education and cognition can contribute to our understanding of these phenomena.

Rules & Requirements
Grading Status: Letter grade.

EDUC 505. Leadership in Educational/Nonprofit Settings. 3 Credits.
Introduces students to a research-based, highly practical understanding of leadership frames/styles prominent in educational/nonprofit organizations. Emphasizes continued student engagement with various leadership models and principles.

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING or FC-POWER.
Grading Status: Letter grade.

EDUC 506. Politics, Policymaking, and America's Schools. 3 Credits.
Through extensive case study and conversations with policy actors, students will learn the stages model of policy making and understand conflicting values that play out in policy decisions.

Rules & Requirements

IDEAs in Action Gen Ed: FC-POWER.
Grading Status: Letter grade.

EDUC 507. Arts, Education, and Social Change. 3 Credits.
An exploration of the function and history of art in educational and social change movements. In this course students use a critical approach to examine various forms of art and expression as they relate to education.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH.
Grading Status: Letter grade.

EDUC 508. Equity, Leadership, and You. 3 Credits.
This course was developed to confront and address questions of global cultural competence and self-critique. Culturally competent leaders work to understand their own biases and patterns of discrimination.

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING or FC-VALUES.
Grading Status: Letter grade.

EDUC 509. Helping Youth Thrive in K-12 Schools. 3 Credits.
Learn strengths-oriented approaches in education practice, research, and policy. The course takes up contemporary literature on positive psychology, developmental assets, resiliency, cultural competence, school readiness, school engagement/ connectedness, and positive youth development.

Rules & Requirements
Grading Status: Letter grade.

EDUC 510. Latinx Experience in Education. 3 Credits.
Course examines the social-historical, cultural, and political contexts that shape the educational experience of Mexican Americans/Chicanxs and the broader Latinx community. Using critical race theory, paying attention to issues of cultural identity and agency as we move across various geopolitical dimensions of contestation, resistance, and immigration, including the southwestern U.S. and new Latinx diaspora spaces - namely the US South. Including critically exploring PreK-12 schools, higher education, and social initiatives to address inequities in education.

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING or FC-POWER.
Grading Status: Letter grade.

EDUC 512. Critical Examination of Racism and Education: African American Case Example. 3 Credits.
This course examines previous and present eras in American education from a critical race perspective. Critiques will feature dominant or majoritarian narratives (widely adopted accounts often taught as part of an institution's curriculum) and counter narratives in regards to racism with the education of Blacks in America serving as a case example.

Rules & Requirements
Grading Status: Letter grade.

EDUC 513. Methods for Teaching in the Elementary School. 3-9 Credits.
Permission of the instructor for nonmajors. This methods block is a field based, integrated collection of science, literacy, and math courses designed to prepare pre-service teachers for planning and implementing instruction in elementary schools.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

EDUC 515. The Arts as Integrative Teaching. 2 Credits.
Restricted to students admitted to the elementary education program or the child development and family studies program. Explores integration of the arts in the curriculum.

Rules & Requirements
Grading Status: Letter grade.

EDUC 516. Introduction to the Education of Exceptional Learners. 3 Credits.
Offers an overview of the special education field and its relevance to the classroom teacher. The course is based on an interdisciplinary perspective toward serving exceptional learners and collaboratively coordinating services. Course content emphasizes inclusive programming and the teacher's role in facilitating students' unique learning needs.

Rules & Requirements
Grading Status: Letter grade.

EDUC 517. Educational Partnership Through Program Evaluation. 3 Credits.
A practical introduction to theory and methodology in program evaluation, emphasizing partnership with educational organizations.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

EDUC 518. Exploring Public Pedagogies through Popular Culture. 3 Credits.
The generally accepted broad understanding of the term "public pedagogy" is that it refers to "the learning and education happening outside of formal schooling systems." Public pedagogy as a growing field explores how "spaces of learning such as popular culture, the Internet, public spaces such as museums and parks, and other civic and commercial spaces, including both old and new social movements," are potential "sites of pedagogy containing possibilities for both reproduction and resistance."

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH.
Grading Status: Letter grade.

EDUC 519. Senior Seminar. 3 Credits.
Course is restricted to majors. Permission of the instructor for nonmajors. The senior seminar is inquiry based and directly connects student teachers with classroom practices. Throughout the semester student teachers develop and implement inquiry projects.

Rules & Requirements
Requisites: Prerequisite, EDUC 593.
Grading Status: Letter grade.

EDUC 520. Early Language and Literacy Learning-Birth to Third Grade. 3 Credits.
Course is restricted to majors. Permission of the instructor for nonmajors. Course focuses on the language, reading, and writing development of children birth through third grade. Promotes early literacy learning for all children with and without disabilities, including those at risk.

Rules & Requirements
Grading Status: Letter grade.

EDUC 521. Schools, Cultures, and Communities I: Youth. 3 Credits.
Focus on youth in schools. This course considers the history and present lives of youth, primarily as teenagers/adolescents. It seeks recognition and understanding of the uniqueness of their lives.

Rules & Requirements
Grading Status: Letter grade.

EDUC 522. Schools, Cultures, and Communities II: Schools. 3 Credits.
Course focuses on schools and educational issues as they relate to practices and policies. Fulfills central ideas of the minor in education in consideration of the history and present conditions of schooling in a democratic society.

Rules & Requirements
Grading Status: Letter grade.

EDUC 523. Teaching Early Mathematics-Birth to Third Grade. 3 Credits.
Course is restricted to majors. Permission of the instructor for nonmajors. Students study the teaching and learning of mathematics for young children, birth to third grade. Emphasis is placed on content for math, as well as materials, techniques, and teaching aids.

Rules & Requirements
Grading Status: Letter grade.

EDUC 524. Learning on the Edge: Theories of Experiential Education. 3 Credits.
This course examines experiential education in a variety of settings. Students will explore the role experiential education currently plays and suggest new roles in a chosen field of study.

Rules & Requirements
Grading Status: Letter grade.

EDUC 526. Ethics and Education: From Global Problems to Classroom Dilemmas. 3 Credits.
Among the topics examined are ethical implications of democratic schooling for a democratic society, educators as moral agents, and education as an institution with incumbent responsibilities. Students explore the explicit and implied ethics of education and schooling as they relate to policy makers, educators, and citizens concerned about social justice.

Rules & Requirements

IDEAs in Action Gen Ed: FC-VALUES.
Grading Status: Letter grade.

EDUC 527. Screen Education: Representations of Education in Popular Culture. 3 Credits.
Explore and analyze how education has been represented in popular culture. "Education" refers to teachers, students, principals, other educators, and the everyday processes of schooling, and "popular culture" refers to school films (fictional films), school documentaries, television shows, music videos and song lyrics, animation, and other media forms.

Rules & Requirements
Grading Status: Letter grade.

EDUC 528. Exceptionality Across the Life Span. 3 Credits.
This course provides methods for supporting exceptional individuals across the age span. Resources for supporting families, including parenting skills, from birth through adulthood will be described.

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING.
Grading Status: Letter grade.

EDUC 529. Education in American Society. 3 Credits.
Explore history of American schools to inform students' understandings of contemporary schools. Examine policies, issues, and controversies through a chronological examination of schools and society.

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING or FC-PAST.
Grading Status: Letter grade.

EDUC 530. Free-Choice Learning in Informal Environments. 3 Credits.
On average, Americans spend less than five percent of their lives in traditional classrooms and an ever-growing body of evidence supports the importance and quality of the knowledge gained outside of school. Parks, museums, theaters, zoos, and aquariums are just a few of the vast resources available to the American public. These informal learning environments are designed to educate, inspire, and entertain visitors in approachable and engaging ways.

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING, RESEARCH.
Grading Status: Letter grade.

EDUC 531. Effective Teaching: First Steps. 2 Credits.
Characteristics of effective teachers, classroom management, instructional methods, instructional planning and presentation, monitoring and assessing student behavior and learning, differentiating instruction, yearly plans and pacing guides.

Rules & Requirements
Grading Status: Letter grade.

EDUC 532. Human Development and Learning. 3 Credits.
This course examines the field of human development as it contributes to the teaching and learning of all children and youth. The emphasis is on understanding the nature of development in family and educational contexts and the implications of research and theory on human development for teacher practice and human services and the creation of supportive learning environments for all children and youth.

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING.
Grading Status: Letter grade.

EDUC 533. Social Justice in Education. 3 Credits.
Course examines how education can help create more fair and just societies, ultimately contributing to high performing educational systems internationally. Students explore multiple perspectives on social justice; examine efforts at local, state, national, and global levels; and learn to articulate efforts in classrooms and schools with wider community initiatives.

Rules & Requirements

IDEAs in Action Gen Ed: FC-POWER.
Grading Status: Letter grade.

EDUC 534. Effective Teaching: Assessment. 2 Credits.
Methods of assessment, multiple measures, monitoring student performance to inform and improve instruction, understanding students with special needs with individual education plans, test scores, and other information in student files.

Rules & Requirements
Grading Status: Letter grade.

EDUC 535. Teachers and Schools. 3 Credits.
Leadership in classroom and school with families, standards of practice, advocating equity, supporting teaching profession, school organization, school finance, legal issue/education strategies for environments that promote learning, issues and trends.

Rules & Requirements
Grading Status: Letter grade.

EDUC 540. Mathematics Teaching. 2 Credits.
NCTM Standards, Standard Course of Study, developing student understanding of mathematics, problem-solving skills, and professional commitment.

Rules & Requirements
Grading Status: Letter grade.

EDUC 542. Planning for Mathematics Instruction. 2 Credits.
Examining patterns of practice and assessment, modifying and improving planned units, pacing instruction, reconsidering individual differences and differentiation.

Rules & Requirements
Grading Status: Letter grade.

EDUC 543. Higher Education in the US. 3 Credits.
Does it matter what you learn in college? What is really going on when you join a fraternity or sorority? In this course we will examine the role of higher education in U.S. society and why it matters that you are enrolled here at all.

Rules & Requirements
Grading Status: Letter grade.

EDUC 546. Experiential Education in International Contexts. 3 Credits.
In this course, pre-service teachers and other students interested in education will explore international educational contexts (Hamburg, Germany or Quito, Ecuador/Galapagos Islands) through the lens of experiential education. In this study abroad experience, students will participate in formal and informal educational settings using Kolb's (1984) experiential learning cycle: experience, reflection, abstraction, application. This course is intended for anyone contemplating a career in education or any helping profession.

Rules & Requirements
Grading Status: Letter grade.

EDUC 563. Teaching Language Arts in the Middle Grades. 3 Credits.
Restricted to students admitted to the middle grades education program. Focuses on the goals and methods of teaching language arts in the middle grades, including planning for student diversity and unit planning.

Rules & Requirements
Grading Status: Letter grade.

EDUC 565. Teaching Science in the Middle Grades. 3 Credits.
Restricted to students admitted to the middle grades education program. Focuses on methods for teaching science in the middle grades and includes emphasis on the individual needs of students, reading and writing in the content area, and unit planning.

Rules & Requirements
Grading Status: Letter grade.

EDUC 567. Children's Literature in Elementary and Middle Schools. 3 Credits.
Explores literature in the contexts of interdisciplinary elementary and middle school curricula and the interests and needs of children and young adolescents. Topics include reader-response theory, censorship, Internet resources, school resources, and methods.

Rules & Requirements
IDEAs in Action Gen Ed: FC-AESTH or FC-CREATE, COMMBEYOND.
Grading Status: Letter grade.

EDUC 568. Seminar on Teaching. 3 Credits.
Rules & Requirements
Requisites: Prerequisites, EDUC 465, 466, and 469; corequisite, EDUC 593.
Grading Status: Letter grade.

EDUC 570. History of American Higher Education. 3 Credits.
Students in this class will be introduced to higher education in the United States. This course will focus on the development of colleges and universities and how their development helped shape and define current institutional practices and policies.

Rules & Requirements
IDEAs in Action Gen Ed: FC-PAST.
Grading Status: Letter grade.

EDUC 571. The Maker Movement and Education. 3 Credits.
Education research shows that people learn better when they move, they work with their hands, they manipulate objects, and they design and make things. We've known this for years, but it's been very hard to design activities for children where they can move and make, and at the same time learn the required course material. But today that's changed, thanks to exciting new technologies that bring learning and making together.

Rules & Requirements
IDEAs in Action Gen Ed: FC-CREATE.
Grading Status: Letter grade.

EDUC 572. Psychology of Creativity. 3 Credits.
How do people create? How do people learn to be creative? This class will introduce you to the latest scientific understandings of how creativity works. You'll actively engage in the creative process, in four different domains, such as creative writing and music production. We'll connect these experiences to the latest science of how creativity works, in psychology and in other disciplines.

Rules & Requirements
IDEAs in Action Gen Ed: FC-CREATE.
Grading Status: Letter grade.

EDUC 573. Reading the World: Paulo Freire, Local History, and Public Pedagogy. 3 Credits.
This course is a thought experiment examining current and historical controversies in the areas within which we live. Using the lens of Public Pedagogy defined as the pedagogy in which all humans are immersed in which is not without politics and message. The world as constructed as created by humans is charged with messages subtle and overt that shape our experience and point of view.

Rules & Requirements
Grading Status: Letter grade.

EDUC 574. Representations of Education in Documentaries. 3 Credits.
Representations of teachers, students, and schooling appear in many popular media forms, including films, television shows, animation, popular songs, music videos, TV news and commercials, young adult fiction, and more. Alongside the subgenre of "school films" there exists another vibrant and robust cinematic subgenre composed of documentaries about "Education" (writ large). This course is an introduction to and exploration of these documentaries about education.

Rules & Requirements
Grading Status: Letter grade.

EDUC 575. Nurturing Latinx Identity Formation. 3 Credits.
Through engagement, students will critically reflect on challenges and opportunities within schools and communities to transform these spaces positively. The course's central focus is learning how to re-imagine and redesign inclusive learning environments that uplift and advocate for positive racial/ethnic identity development of Southern Latinx youth. This course will utilize theories and frameworks to help students contextualize the experiences of Latinx communities in education while acquiring high impact practices to serve Latinx youth effectively.

Rules & Requirements
IDEAs in Action Gen Ed: FC-KNOWING or FC-POWER.
Grading Status: Letter grade.

EDUC 576. LatinxEd Internship. 3 Credits.
This course is primarily built upon weekly service learning, as students receive hands-on and behind-the-scenes experience in serving LatinxEd and its youth-serving initiatives and programs. Service-learning is coupled with weekly university course where students will collectively reflect on their experience in educational settings in and out of the classroom and receive mentorship from LatinxEd staff/partners. Students will demonstrate skills learned in EDUC 575.

Rules & Requirements
IDEAs in Action Gen Ed: FC-KNOWING or FC-POWER, HI-SERVICE.
Requisites: Prerequisite, EDUC 575.
Grading Status: Letter grade.

EDUC 583. Career and Professional Development. 3 Credits.
The primary goal of this course is to provide an integrative learning experience that prepares HDFS students to apply academic learning, ethical and family life education principles acquired in previous coursework to real-life situations likely to be encountered in the internship experience and throughout their careers in the field of family studies and human services. Course materials and learning experiences are intended to help students with obtaining an internship consistent with their career goals.

Rules & Requirements

IDEAs in Action Gen Ed: HI-SERVICE.
Requisites: Prerequisite, EDUC 408.
Grading Status: Letter grade.

EDUC 584. AI for Learning and Innovation. 3 Credits.
Students will learn and practice how to optimize the affordances of Generative Artificial Intelligence (GenAI). Students will be introduced to the literature and applications of GenAI for learning, innovation, productivity, and research. Throughout the course, students will engage with GenAI in applied cases for personal, civic, and professional purposes.

Rules & Requirements
Grading Status: Letter grade.

EDUC 585. Activating Human and Organizational Leadership Development. 3 Credits.
This course provides an integrative learning experience that prepares students to apply academic learning acquired in previous coursework to real-life situations likely to be encountered in the internship experience and throughout their careers. The project-based approach is intended to culminate learning about human development and organizational theory and provide an opportunity to practice and prepare for their capstone experience. Majors only.

Rules & Requirements
Requisites: Prerequisite, EDUC 309.
Grading Status: Letter grade.

EDUC 590. Special Topics in Education. 1-3 Credits.
This course provides students the opportunity for intensive exploration and discussion of selected topics in education.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

EDUC 591. Seminar in Academic Mentoring in Education. 1 Credits.
The education seminar in education provides direct experience in facilitating learning in undergraduate courses in education, human development, and organizational leadership. Students will serve as undergraduate learning assistants as part of the experiential activity of the course. Juniors and seniors only.

Rules & Requirements

IDEAs in Action Gen Ed: HI-LEARNTA.
Repeat Rules: May be repeated for credit. 3 total credits. 3 total completions.
Grading Status: Letter grade.

EDUC 593. Internship/Student Teaching. 1-12 Credits.
Internships are full-time, authentic, field-based experiences in an educational or professional setting. Preservice teachers are responsible for planning lessons, delivering instruction, assessing students, managing the classroom, and demonstrating their teaching effectiveness. All internships are devoted exclusively to the student's functioning in a professional capacity.

Rules & Requirements

IDEAs in Action Gen Ed: HI-INTERN.
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 12 total completions.
Grading Status: Pass/Fail.

EDUC 595. Introduction to Exceptional Children. 3 Credits.
Permission of the instructor for nonmajors. Surveys giftedness and mental disabilities, emotional and behavioral disorders, learning disabilities, speech, hearing, vision, and physical impairments. Emphasizes the role of professionals, families, and the community in supporting the whole child.

Rules & Requirements
Grading Status: Letter grade.

EDUC 601. Education Workshops. 1-3 Credits.
Permission of the program director. Workshops designed around education topics primarily for licensed K-12 teachers.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 5 total completions.
Grading Status: Letter grade.

EDUC 605. Family Systems and Policy. 3 Credits.
This course will explore the systemic nature of families, both internally and externally. The first half of the course will focus on the family itself as a natural system, one that governs boundaries and structure and facilitates interactions in reciprocal and patterned ways. The second half of the course will focus on the sociopolitical systems within which families live, specifically, public policies that influence how families define themselves and gain access to resources. Juniors/Seniors only. Majors only.

Rules & Requirements
Grading Status: Letter grade.

EDUC 611. Black Families in Social and Contemporary Contexts. 3 Credits.
This course examines the diversity of Black families in the United States with a focus on the intersection of race, class, gender. The course examines theoretical and practical knowledge needed to develop and promote and maintain healthy Black families and identities. The course considers how historical trauma, slavery, the social construction of race, Blackness, political, and economic factors impact the well-being of Black children, youth, and adults within relationships, families, and social institutions.

Rules & Requirements

IDEAs in Action Gen Ed: FC-POWER.
Grading Status: Letter grade.

EDUC 614. Innovative and Engaging Teaching. 3 Credits.
Introduction to the teaching profession including a focused, program-long emphasis on innovative, authentic, and resource-informed teaching. Includes engagement with 21st-century learning skills.

Rules & Requirements
Grading Status: Letter grade.

EDUC 615. Schools and Community Collaboration. 3 Credits.
Course explores the symbiotic relationship between schools, families, and communities through a historical and sociocultural lens. Students participate in a community-based field experience.

Rules & Requirements

IDEAs in Action Gen Ed: FC-POWER, HI-SERVICE.
Grading Status: Letter grade.

EDUC 616. Teaching Early English Language Arts. 3 Credits.
Course focuses on ELA pedagogy, grades kindergarten through second grade. Course emphasizes best practices in foundations of reading and writing, cross-disciplinary concepts, and meaningful inquiry-based learning experiences.

Rules & Requirements
Grading Status: Letter grade.

EDUC 617. Teaching in the Middle School. 3 Credits.
Provides students with an introduction to the history, philosophy, and attributes of schools and curriculum specifically designed for young adolescents with attention to their developmental characteristics and needs as learners.

Rules & Requirements

IDEAs in Action Gen Ed: HI-SERVICE.
Grading Status: Letter grade.

EDUC 626. Pedagogical English Grammar for ESL Teachers. 3 Credits.
Enhances foreign and second language educators' understanding of English grammar, expands their skills in linguistic analysis, and helps them develop a more pedagogically sound approach to the teaching of English grammar.

Rules & Requirements
Grading Status: Letter grade.

EDUC 628. Teaching English Language Learners. 3 Credits.
Provides an introduction to second language acquisition and considerations for the educational experiences of emergent bilingual/multilingual students in the context of U.S. schools.

Rules & Requirements
Grading Status: Letter grade.

EDUC 630. Advanced Research Design and Methods in Human Development and Family Studies. 3 Credits.
This course covers advanced research designs and methodologies that are common in contemporary research on human development and family studies. It is designed to follow the introductory course in research methods and provides a more immersive learning experience into research design and methods. As such, it is appropriate for advanced undergraduate students as well as graduate students with limited exposure to advanced research.

Rules & Requirements
Requisites: Prerequisite, EDUC 408; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

EDUC 672. UNC Teaching Fellows: Community of Learners. 1 Credits.
This course is required during both fall and spring semesters for all UNC students currently receiving funding through the North Carolina Teaching Fellows Program. The course will focus on addressing NC Teaching Fellows Commission-mandated enhancements in areas of leadership, diverse learners, classroom management, and assessment. Fellows will reflect on experiences and knowledge gained through readings, discussions, and community engagement. Previously offered as EDUC 872.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 6 total completions.
Grading Status: Letter grade.

EDUC 685. Teaching Mathematics in the Elementary Grades. 3 Credits.
This course emphasizes the interconnection of a classroom/school and society, the role of cultural beliefs in education, and mathematics instruction.

Rules & Requirements
Grading Status: Letter grade.

EDUC 686. Teaching Science in the Elementary Grades. 3 Credits.
This course emphasizes the interconnection of classroom/school and society, the role of cultural beliefs in education, and science instruction.

Rules & Requirements
Grading Status: Letter grade.

EDUC 687. Teaching Social Studies in the Elementary Grades. 3 Credits.
This course emphasizes the interconnection of classroom/school and society, the role of cultural beliefs in education, and social studies instruction.

Rules & Requirements
Grading Status: Letter grade.

EDUC 688. Teaching Intermediate English Language Arts, Grades 3-6. 3 Credits.
This course emphasizes the interconnection of classroom/school and society, the role of cultural beliefs in education, and English language arts instruction.

Rules & Requirements
Grading Status: Letter grade.

EDUC 689. Foundations of Special Education. 3 Credits.
This course provides an advanced introduction to key concepts, issues, and service delivery approaches pertaining to the educational needs of students with high incidence disabilities.

Rules & Requirements
Grading Status: Letter grade.

EDUC 691H. Honors Seminar in Education. 3 Credits.
Restricted to honors candidates in the School of Education. Required for graduation with honors in education. Integration of critical analysis of selected educational themes, introduction to methods of educational research, and intensive work in skills of reading critically and writing.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

EDUC 694H. Honors Thesis in Education. 3 Credits.
Required of all candidates for graduation with honors in education. Preparation of an honors thesis under the direction of a member of the School of Education faculty and an oral examination on the thesis.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Requisites: Prerequisite, EDUC 691H; A grade of B or better in EDUC 691H is required to take this course.
Grading Status: Letter grade.

EDUC 695. Human and Organizational Leadership Development Capstone. 9 Credits.
This course provides an integrative learning experience in which HOLD students apply academic learning acquired in previous coursework to real-life situations encountered in the field. The internship serves as the capstone of the HOLD major, requiring senior students to demonstrate mastery of the skills learned in the HOLD major. Students are required to complete a Human Organizational Leadership and Development project that will be shared in both written format and an oral presentation. Restricted to Majors only.

Rules & Requirements

IDEAs in Action Gen Ed: HI-INTERN.
Requisites: Prerequisites, EDUC 257, EDUC 309, EDUC 357, EDUC 505, EDUC 508, and EDUC 585.
Grading Status: Letter grade.

EDUC 697. Education Minor Capstone Course. 3 Credits.
Student completes a major project in education. Course involves discussion about the changing and contested goals of education, how student projects are implicated in these complexities, and how the projects may be articulated in terms of policy change.

Rules & Requirements
Grading Status: Letter grade.

EDUC 698. Internship in Human Development and Family Science. 3-9 Credits.
The primary goal of this course is to provide an integrative learning experience in which HDFS students apply academic learning acquired in previous coursework to real-life situations encountered in the field. The internship serves as the capstone of the HDFS major, requiring senior students to demonstrate mastery of skills learned in the HDFS major. Students are also required to complete a Leadership/Family Life Education project for the internship site shared both in written format-and-oral presentation.

Rules & Requirements

IDEAs in Action Gen Ed: HI-INTERN.
Requisites: Prerequisites, EDUC 181, 408, and 583.
Repeat Rules: May be repeated for credit. 9 total credits. 3 total completions.
Grading Status: Letter grade.

EDUC 699. Teaching the Science of Literacy. 3 Credits.
The course examines the science of literacy and how children learn to read and write. The course will emphasize evidence-based practices in foundations of reading and writing, based on the literature of the science of reading. Using the multi-tiered system of support (MTSS) framework, students will learn how to target literacy to meet individual needs based on formative and summative assessments. Students will learn to link progress monitoring to EBPs for tracking responsiveness to instruction.

Rules & Requirements
Grading Status: Letter grade.

Graduate-level Courses

EDUC 701. Practica Student Internship. 1-12 Credits.
Provides students the opportunity to observe and become involved with all aspects of teaching and schools within their content area. Previously offered as EDUC 693.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 2 total completions.
Grading Status: Letter grade.

EDUC 702. Introduction to Strengths-Based School Counseling. 3 Credits.
Introduction to the counseling profession and ethical codes. Primary focus on the history and ethical practice of school counseling, specifically the Strengths-Based School Counseling framework.

Rules & Requirements
Grading Status: Letter grade.

EDUC 703. Theories and Techniques of Counseling. 3 Credits.
School Counseling students only. Explores theories and theory-based techniques of counseling, with emphasis on theory as a means of conceptualizing behavior change in the counseling process.

Rules & Requirements
Grading Status: Letter grade.

EDUC 704. Promoting Career Development. 3 Credits.
Master of Education in School Counseling majors only. Course examines theories and models of career development, school transitions, college access/college admissions counseling, and educational policy. Students will utilize action plans that include assessment tools, information sources, and technology for diverse K-12 school communities.

Rules & Requirements
Grading Status: Letter grade.

EDUC 705. Internship in School Counseling and Consultation. 3-9 Credits.
Places students in counseling and consultation under supervision in a school setting in order to develop competencies in individual counseling, group counseling, and consultation. May be repeated for credit for a maximum of 12 credit hours.

Rules & Requirements
Requisites: Prerequisites, EDUC 703 and 712; Permission of the instructor for students lacking the prerequisites.
Repeat Rules: May be repeated for credit. 12 total credits. 4 total completions.
Grading Status: Letter grade.

EDUC 706. Collaboration and Leadership in School Counseling. 3 Credits.
Students are required to have taken 18 hours in counseling courses. Emphasizes the collaboration and leadership skills needed to effectively organize and implement a comprehensive school counseling program.

Rules & Requirements
Grading Status: Letter grade.

EDUC 707. Promoting Cultural Competence and Social Justice in School Counseling. 3-6 Credits.
Permission of the instructor. Explores the cognitive and affective considerations of counseling in culturally different social systems. This includes ways to incorporate specific sociocultural dimensions into the counseling process.

Rules & Requirements
Grading Status: Letter grade.

EDUC 708. School Consultation Methods. 3-12 Credits.
Examines various models of consultation and the role of the consultative model in the schools and related agencies; uses role playing and experience in the school. May be repeated for credit.

Rules & Requirements
Repeat Rules: May be repeated for credit. 12 total credits. 4 total completions.
Grading Status: Letter grade.

EDUC 709. Seminar in Applied Investigations. 3 Credits.
Permission of the instructor. Provides opportunities to expand understanding of research in education, psychology, counseling, and school psychology.

Rules & Requirements
Grading Status: Letter grade.

EDUC 710. Introductory Statistical Methods. 3 Credits.
Introduction to descriptive and inferential statistics applicable to the design and analysis of research in the social, behavioral, and health sciences. Topics include descriptive statistics, hypothesis testing, statistical power, confidence intervals, ANOVA, and multiple regression. Students use statistical software (R) to conduct analyses, with examples drawn largely from education and human development.

Rules & Requirements
Grading Status: Letter grade.

EDUC 711. Promoting Academic Development. 3 Credits.
The course addresses the school counselor's role in promoting student academic development. Interventions for impacting academic achievement at both the individual and systems level are explored.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

EDUC 712. Prepracticum in School Counseling. 3 Credits.
School counseling graduate students only. Develops basic strengths-based counseling and interviewing techniques at specified levels of mastery through role playing, feedback sessions, and other experiential counseling activities to enhance counselor competence.

Rules & Requirements
Requisites: Prerequisites, EDUC 702 and 703; Permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

EDUC 713. Tests and Measurements. 3 Credits.
Studies basic concepts in measurement and their application in the use and interpretation of tests. The student may be required to purchase tests.

Rules & Requirements
Requisites: Prerequisite, EDUC 702.
Grading Status: Letter grade.

EDUC 714. Group Counseling and Guidance. 3 Credits.
Permission of the instructor. Applies counseling theory and research to the organization and implementation of group work (e.g., guidance, task, psychoeducational, counseling groups) in schools.

Rules & Requirements
Grading Status: Letter grade.

EDUC 715. Girlhood, Culture, and Curriculum. 3 Credits.
Who is a girl? How do the intersections of race, class, gender, sexuality, disability, citizenship status, and other such markers of difference influence what is known and knowable about girl(hood)s? What are the temporal spaces of girlhood? How does the idea of girlhood travel across times and geographies (i.e., places and spaces)? How does school function as an apparatus for the socialization, acculturation, and disciplining of girl(hood)s? What are the cultural and curricular constructions.

Rules & Requirements
Grading Status: Letter grade.

EDUC 716. Technology across the Curriculum. 3 Credits.
Explores the field of educational technologies, situating the field within the context of historical and theoretical foundations, current practices, and future directions.

Rules & Requirements
Grading Status: Letter grade.

EDUC 717. Theory and Research in Education Technology. 3 Credits.
This course is based on the review and critique of research and theoretical literature in the field of education technology. Students will conduct critical analyses of theory, research, and methodology in the field of education technology and design a proposed education technology research study.

Rules & Requirements
Grading Status: Letter grade.

EDUC 718. Psychological Assessment and Intervention I. 3 Credits.
Permission of the instructor. Addresses knowledge and skills in techniques of observation, interviewing, assessment of environment, intelligence, achievement, perceptual motor skills, and interpersonal perceptions. May be repeated for credit.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

EDUC 719. Psychological Advanced Assessment and Intervention II. 3 Credits.
Permission of the instructor. Addresses knowledge and skills in techniques of observation, interviewing, assessment of environment, intelligence, achievement, perceptual motor skills, and interpersonal perceptions.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

EDUC 720. Seminar in Professional School Psychology. 2-3 Credits.
Deals with the goals and roles of school psychology, ethical concerns, privileged information, certification and licensing, and other relevant areas. May be repeated for credit.

Rules & Requirements
Grading Status: Letter grade.

EDUC 721. Externship in School Psychology. 3 Credits.
Permission of the instructor. Provides supervised observation and participation in school psychological services in schools and school-related field facilities. May be repeated for credit.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

EDUC 722. Master's Internship in School Psychology. 1-6 Credits.
Provides supervised full-time field experience for master's students in school psychology in a school setting.

Rules & Requirements
Requisites: Prerequisite, EDUC 721; Permission of the instructor.
Grading Status: Letter grade.

EDUC 723. Advanced Assessment and Intervention Approaches for Students with Traumatic Brain Injury. 3 Credits.
Assessment and treatment of students who have sustained traumatic brain injury; for school and clinical psychologists.

Rules & Requirements
Grading Status: Letter grade.

EDUC 724. Parent and Community Engagement for the School Executive. 3 Credits.
Focus on the environmental context of family and community engagement. Research-based best practices applied to an identified local school site, where analyses of school/district initiatives, policies, and practices are examined through a social justice lens. Review federal/state legislation and compliance to ensure the rights of parents and guardians.

Rules & Requirements
Grading Status: Letter grade.

EDUC 725. Supervisory Practice for the School Executive. 3 Credits.
Admission to the master of school administration program required. Focuses on the role of school administrators in facilitating the continuous improvement of the clinical supervision process and on a variety of observation and conferencing skills that school leaders may employ with teachers and other support staff.

Rules & Requirements
Grading Status: Letter grade.

EDUC 726. Capstone Preparation. 1 Credits.
Students will identify and define a problem that exists and its impacts on specific populations. Students will design a response to that problem in the form of a venture that is feasible, desirable, and scalable venture. Students will then use design thinking principles to develop a venture plan and prototype. Permission of the instructor.

Rules & Requirements
Requisites: Prerequisites, To be eligible for this course, students must be enrolled in the MEITE program and have completed all the coursework required by their program of study.
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 4 total credits. 4 total completions.
Grading Status: Letter grade.

EDUC 727. The Social Context of Educational Leadership. 3 Credits.
Provides retrospective, contemporary, and prospective examinations of the social, cultural, political, and philosophical contexts from which the current issues that affect schools and schooling have evolved.

Rules & Requirements
Grading Status: Letter grade.

EDUC 729. Culture and Politics in Second Language Education. 3 Credits.
This course provides an overview of current issues in second language teaching (ESL, foreign languages, and bilingual education) with a focus on culture, politics, and diversity.

Rules & Requirements
Grading Status: Letter grade.

EDUC 730. Curriculum Leadership for the School Executive. 3 Credits.
Applies curriculum skills required of school executives today, including the development of an alternative school schedule with a different curricular focus; analysis of test data to discern achievement trends; test item deconstruction; instructional mapping; and the creation of a group-based curriculum management plan for a specific elementary or secondary school.

Rules & Requirements
Grading Status: Letter grade.

EDUC 731. Organizational Management for the School Executive. 3 Credits.
This course provides pre-service school executives with a skill set and practical experiences that address effective organizational management behaviors. Topics include time management, budget and resource allocation, use of data to assess decisions and initiatives, implementation of appropriate rules and procedures, and open communication with all stakeholders.

Rules & Requirements
Grading Status: Letter grade.

EDUC 732. Group Dynamics for the School Executive. 3 Credits.
Experiential course that focuses on the development of an understanding and skills for working with various organizational groups. Focus is on teams, leadership of teams, team problem solving, and team decision making.

Rules & Requirements
Grading Status: Letter grade.

EDUC 733. Advanced ESL Methods and Strategies for Humanities. 3 Credits.
This course will prepare teacher candidates for teaching emergent bilingual students at the elementary and secondary level. This course builds upon skills and methods introduced in EDUC 628 with a focus on language arts and social studies content.

Rules & Requirements
Requisites: Prerequisite, EDUC 628.
Grading Status: Letter grade.

EDUC 734. Planning in Educational Organizations. 3 Credits.
Examines a conceptual and practical approach to planning in educational organizations. Includes a focus on environmental scanning, futures research, and strategic planning.

Rules & Requirements
Grading Status: Letter grade.

EDUC 735. Seminar on Internship I. 3 Credits.
Students examine a variety of issues that arise during their internship. Heavy emphasis on the creation of required artifacts needed for both program completion and State licensure.

Rules & Requirements
Grading Status: Letter grade.

EDUC 736. Seminar and Supervised Internship in Educational Administration I. 3-6 Credits.
Provides supervised internship in school administration to facilitate the student's progress toward certification in the principalship. May be repeated for credit.

Rules & Requirements
Grading Status: Letter grade.

EDUC 737. Seminar on Internship II. 3 Credits.
In addition to dealing with a variety of issues that candidates are dealing with in their internships, there is a heavy emphasis on creation of required artifacts needed for both program completion and State Licensure.

Rules & Requirements
Grading Status: Letter grade.

EDUC 738. Seminar and Supervised Internship in Educational Administration II. 3-6 Credits.
Required preparation, six semester hours in educational administration, including EDUC 834. Permission of the instructor. Provides supervised internship in school administration to facilitate the student's progress toward certification in the principalship. May be repeated for credit.

Rules & Requirements
Requisites: Prerequisite, EDUC 834.
Grading Status: Letter grade.

EDUC 739. Global Child: Development and Education. 3 Credits.
Examines issues, policies, and practices related to children's development and education in a global context. Universal documents and declarations will serve as frameworks for review of the status of children's education and well-being globally.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

EDUC 740. Cultural Leadership for the School Executive. 3 Credits.
Course focuses on the importance of school executives' understanding the organizational culture of their schools and then exerting symbolic leadership strategies to reshape that culture so it is more conducive to promoting the academic achievement of students.

Rules & Requirements
Grading Status: Letter grade.

EDUC 741. School Inquiry and Reform for the School Executive. 3 Credits.
Course focuses on the use of various types of data that can be used to impact decisions regarding school improvement and increased student achievement. It also introduces a number of proven strategies and tactics for improving schools.

Rules & Requirements
Grading Status: Letter grade.

EDUC 742. Law for the School Executive. 3 Credits.
Course focuses on the basic legal principles that school executives need to know and follow in their day-to-day leadership activities.

Rules & Requirements
Grading Status: Letter grade.

EDUC 743. Teaching Secondary Students with Disabilities. 1 Credits.
Following a case format and utilizing online instruction, M.A.T. students learn to teach secondary learners in inclusion settings.

Rules & Requirements
Grading Status: Letter grade.

EDUC 744. Assessment Techniques for ESL/EC Teachers. 3 Credits.
Covers the knowledge and abilities necessary to create and interpret assessments of academic progress, engagement, and motivation. Emphasis on (a) technology and (b) assessments for ESL and special needs students.

Rules & Requirements
Requisites: Prerequisite, EDUC 628.
Grading Status: Letter grade.

EDUC 745. Contexts of Education II. 2 Credits.
Provides a weekly seminar (part two of a two-semester sequence) for interns with full-time teaching responsibilities. Interns will connect their teaching experience to social, cultural, and philosophical issues in education.

Rules & Requirements
Requisites: Prerequisite, EDUC 759.
Grading Status: Letter grade.

EDUC 746. Practica Student Internship. 9 Credits.
Permission of the instructor. Provides full-time internship in teaching in the content area under the supervision of experienced teachers and a university supervisor for the semester.

Rules & Requirements
Grading Status: Letter grade.

EDUC 747. Methods and Materials for Teaching Secondary/K-12 Subjects II. 3 Credits.
Teaches student teachers to be aware of trends and issues in their content area in North Carolina and the nation, therefore improving their understanding and skills in curriculum development and instruction.

Rules & Requirements
Grading Status: Letter grade.

EDUC 748. Advanced Leadership. 3 Credits.
Course restricted to graduate students in the M.A.T. program. The course will provide a foundation for advanced students to consider what it means to participate in schools as educational leaders. This course builds on experience gained from the student teaching internship and is one-half of the capstone module of the MAT program of study.

Rules & Requirements
Grading Status: Letter grade.

EDUC 749. Advanced Exploration of Families, Schools and Communities. 3 Credits.
Admission into the M.A.T. program required. This advanced course examines strategies for effective communication and collaboration with families, professional team members, and school resources. Topics will include a return to contextual issues and reflection on initial preparation experiences. This course is one-half of the capstone module of the MAT program of study.

Rules & Requirements
Grading Status: Letter grade.

EDUC 750. Empowerment Strategies for the School Executive. 3 Credits.
Course focuses on the factors that hinder both school executives and their teachers from feeling empowered to fulfill their leadership potential and examines a variety of strategies for overcoming those challenges.

Rules & Requirements
Grading Status: Letter grade.

EDUC 751. Introduction to Teaching Diverse Learners. 3 Credits.
Admission to the M.A.T. program required. Introduces the principles of effective teaching with emphasis on the first year of teaching.

Rules & Requirements
Grading Status: Letter grade.

EDUC 752. College Access and College Admissions Counseling. 3 Credits.
Examines college access/college admissions counseling. Students will utilize action plans that include assessment tools, information sources, and technology to promote college readiness for diverse K-12 school communities.

Rules & Requirements
Grading Status: Letter grade.

EDUC 753. Introduction to Curriculum. 3 Credits.
Open to graduate students in education or permission of the instructor. Surveys the nature of curriculum development and contemporary changes as they relate to social aims, learner characteristics, and social problems.

Rules & Requirements
Grading Status: Letter grade.

EDUC 754. Teaching, Teachers and Teacher Education. 3 Credits.
In this course, students will examine seminal literature related to teachers, teaching and teacher education in the United States. We will focus on examining the who, what, where, how and why of PK-12 teachers, teaching and teacher education, exploring this through both historical and contemporary lenses.

Rules & Requirements
Grading Status: Letter grade.

EDUC 755. Classroom Assessment. 3 Credits.
Course restricted to graduate students in the M.A.T. program. Permission of the instructor for nonmajors. This course provides prospective secondary teachers with a conceptual understanding of assessment to promote all students' school achievement and adjustment in the 21st century.

Rules & Requirements
Grading Status: Letter grade.

EDUC 756. Principles and Methods in Parent Education and Involvement. 3 Credits.
Examines principles, theory, models, and methods for work with parents and families in educational settings, with relevant research and practical applications.

Rules & Requirements
Grading Status: Letter grade.

EDUC 757. College Teaching. 3 Credits.
Introduces students to the planning of courses and educational programs for college students. Emphasis is on a systematic approach to developing, implementing, and evaluating instruction. This course is intended for graduate students in any academic department who plan teaching careers.

Rules & Requirements
Grading Status: Letter grade.

EDUC 758. Immigration and Education. 3 Credits.
Investigates social (including political, economic, legal, and demographic) and cultural impacts on immigration and education.

Rules & Requirements
Grading Status: Letter grade.

EDUC 759. Teacher Leadership for a Diverse Society. 3 Credits.
Course restricted to graduate students in the M.A.T. program. Permission of the instructor for nonmajors. For educational institutions to be effective in a diverse society, teachers must take on key leadership roles. This course helps prepare future teachers for such leadership.

Rules & Requirements
Grading Status: Letter grade.

EDUC 760. Methods and Materials for Teaching Secondary/K-12 Subjects I. 3 Credits.
Prepares students to teach discipline-area material at the secondary level. The immediate purpose of this course is to prepare participants for full-time student teaching during the spring semester.

Rules & Requirements
Grading Status: Letter grade.

EDUC 761. Design of Emerging Technologies for Education. 3 Credits.
This course is designed for students in the MA in educational innovation, technology and entrepreneurship (MEITE) program. The course will introduce a studio-based approach to the design of emerging technologies for education in formal and informal learning environments to help MEITE students build and test prototypes to support their MA projects.

Rules & Requirements
Grading Status: Letter grade.

EDUC 762. Child Development and Disability. 3 Credits.
Emphasizes typical development and developmental deviation exhibited by children in cognitive, language, social, and affective areas.

Rules & Requirements
Grading Status: Letter grade.

EDUC 763. Biological Bases of Children's Development. 3 Credits.
Focuses on the theory and research related to the biomedical and psychological aspects of exceptionality.

Rules & Requirements
Grading Status: Letter grade.

EDUC 764. Current Issues in Literacy. 3 Credits.
The main purpose of this seminar is to engage students in the synthesis and critical examination of current research and policy issues in literacy education.

Rules & Requirements
Grading Status: Letter grade.

EDUC 765. Global Child: Development and Education. 3 Credits.
Course examines contemporary issues, policies, and practices related to children's development and education in a global context. Universal documents and declarations like the U.N. Convention on the Rights of the Child, Education for All, and the Millennium Goals will serve as frameworks for review of the status of children's education and well-being globally.

Rules & Requirements
Grading Status: Letter grade.

EDUC 766. Practicum in School Counseling. 1-9 Credits.
Develops individual counseling skills and an understanding of the school as a setting for counseling through an apprenticeship experience.

Rules & Requirements
Requisites: Prerequisites, EDUC 703 and 712; Permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

EDUC 767. Educational Innovation and Technology, Integrative Seminar I. 3 Credits.
First of two part course to guide students in integrating all of their program experiences. This is an intensive discussion seminar, largely constructed around the contributions and concerns of the students.

Rules & Requirements
Grading Status: Letter grade.

EDUC 769. Schooling of Latinos. 3 Credits.
Exploration of racial/ethnic differences in educational achievement and persistence in school including language and schooling and the interplay of race, gender, and class.

Rules & Requirements
Grading Status: Letter grade.
Same as: LTAM 767.

EDUC 770. Multicultural Ways of Knowing. 3 Credits.
Dialectically explores narratives about race, class, and gender through critical, multicultural, aesthetic, and postmodern lenses.

Rules & Requirements
Grading Status: Letter grade.

EDUC 771. Professional Seminar: Culture, Curriculum and Teacher Education. 1 Credits.
The purpose of this course is to provide knowledge and support for doctoral students in the Culture, Curriculum and Teacher Education strand of the Ph.D. in Education program. We will focus on developing knowledge about how doctoral students can thrive in the program and in academia more broadly. The seminar will be a space for doctoral students in the strand to develop "practical" knowledge and skills needed to become an educational researcher. This will include having opportunities to present and get feedback on their work and discuss questions and issues about the program and academia more generally

Rules & Requirements
Grading Status: Letter grade.

EDUC 772. Educational Sociology. 3 Credits.
Applies sociological theory and research to problems of concern to educators.

Rules & Requirements
Grading Status: Letter grade.

EDUC 774. Social and Educational History of the United States. 3 Credits.
Provides a survey of the social forces influencing the development of American education from the period of colonization to the early years of the 20th century.

Rules & Requirements
Grading Status: Letter grade.

EDUC 775. Introduction to Ethics and Education. 3 Credits.
Identifies issues arising in the professional activities of education personnel in the context of systematic consideration of the nature of ethical choice.

Rules & Requirements
Grading Status: Letter grade.

EDUC 776. Gender, Race, and Class Issues in Education. 3 Credits.
Provides an understanding of (and remedies for) the racism, sexism, and class divisions that schools can perpetuate. Examines curriculum, counseling, and interaction in classrooms; structure and leadership; and fundamental assumptions.

Rules & Requirements
Grading Status: Letter grade.
Same as: WGST 776.

EDUC 777. Gender, Policy, and Leadership in Education. 3 Credits.
Covers feminist critiques of organizational and political power structures in readings and discussions leading to group and individual research projects.

Rules & Requirements
Grading Status: Letter grade.
Same as: WGST 777.

EDUC 778. Teaching English to Speakers of Other Languages. 3-6 Credits.
TESOL program aimed to prepare future teachers to lead their own English Language Learning classroom. Part 1: pedagogy, independent learning & lesson planning. Part 2: lesson & course planning & practice. 4 skills: listening, speaking, reading & writing.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

EDUC 779. Contemporary Philosophies of Democratic Schooling. 3 Credits.
Provides a comparative study of current philosophies of education, with particular attention to their impact on solutions offered to problems currently recognized in American education.

Rules & Requirements
Grading Status: Letter grade.

EDUC 780. Grammar & Applied Linguistics for ESL Teachers. 3 Credits.
This online course will help prepare teachers and teacher candidates for teaching emergent bilingual students at the elementary and secondary level. This course will provide teachers fundamental knowledge and practice of technical English grammar, phonology, morphology, phonetics, syntax and semantics. Participants will also look at the socio-cultural aspects of linguistics and how it is connected to identity and a sense of "place".

Rules & Requirements
Requisites: Prerequisite, EDUC 628.
Grading Status: Letter grade.

EDUC 781. Theories and Research in Human Development. 3 Credits.
Permission of the instructor. Covers the basic theories and the research bases for instructional decisions. This is an advanced-level course in human development.

Rules & Requirements
Grading Status: Letter grade.

EDUC 782. Psychology of Learning in the School. 3 Credits.
Studies learning in the school setting, with emphasis on fundamental concepts, issues, and evaluation of materials and experiences.

Rules & Requirements
Grading Status: Letter grade.

EDUC 783. Advanced ESL Methods and Strategies for STEM. 3 Credits.
This course will prepare teacher candidates for teaching Science and Mathematics and STEM content to emergent bilingual students at the elementary and secondary level. Specifically, it will focus on challenges emergent bilingual students may face when learning science and math in U.S. K-12 classrooms due to the language in which and the worldview from which the content is being taught.

Rules & Requirements
Requisites: Prerequisite, EDUC 628.
Grading Status: Letter grade.

EDUC 784. Intermediate Statistical Methods. 3 Credits.
The second course in statistics for the behavioral, social, and health sciences. Building from a review of statistical inference and power analysis in simple linear regression, we work through standard topics in multiple linear regression, leading to specialized topics including logistic regression, fixed effects, and longitudinal / panel data.

Rules & Requirements
Requisites: Prerequisite, EDUC 710; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

EDUC 785. Program Evaluation in Education. 3 Credits.
An examination of major approaches to program evaluation with emphasis on differences between evaluation and research.

Rules & Requirements
Requisites: Prerequisite, EDUC 710 or permission of the instructor.
Grading Status: Letter grade.

EDUC 786. Problems in Educational Psychology. 3-6 Credits.
Permission of the instructor. Study and development of original investigations in the area of educational psychology.

Rules & Requirements
Grading Status: Letter grade.

EDUC 787. Problems in Educational Measurement. 3 Credits.
Provides an opportunity for advanced doctoral students to study a particular problem area in educational measurement under the supervision of a faculty mentor. May be repeated for credit.

Rules & Requirements
Requisites: Prerequisites, EDUC 710 and 829; Permission of the instructor for students lacking the prerequisites.
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

EDUC 788. Instructional Theories. 3 Credits.
Examines the nature and application of various theories of instruction to instructional goals, individual differences, teaching strategies, sequencing, motivation, and assessment.

Rules & Requirements
Requisites: Prerequisite, EDUC 744.
Grading Status: Letter grade.

EDUC 789. Educational Innovation and Technology, Integrative Seminar II. 3 Credits.
Second of two-part course to guide students in integrating all of their program experiences. This is an intensive discussion seminar, largely constructed around the contributions and concerns of the students.

Rules & Requirements
Grading Status: Letter grade.

EDUC 790. Special Topics in Education - Graduate. 3 Credits.
This course provides graduate students the opportunity for intensive exploration and discussion of selected topics in education.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

EDUC 791. Providing Specially Designed Instruction. 3 Credits.
This course includes instruction in developing and implementing Tier 3 interventions and providing specially designed instruction to meet the needs of students with Individualized Education Programs (IEPs). The course builds on information presented in methods classes. In this course, students further learn to plan for and provide more intensive interventions based on data provided through multiple forms of assessment. Admission to the MAT sequence for special education required.

Rules & Requirements
Grading Status: Letter grade.

EDUC 792. Research on Technology. 3 Credits.
Explores and discusses the application of emerging technologies in education.

Rules & Requirements
Grading Status: Letter grade.

EDUC 793. High-Leveraged Practices in Special Education with a Focus on Literacy Instruction. 3 Credits.
The course examines characteristics of students with mild-to-moderate disabilities in the area of literacy. The primary focus is on determining instructional literacy needs for students with disabilities as well as those receiving Tier 2 and 3 interventions through a multi-tiered system of support (MTSS) framework. The course covers how to target literacy instruction to meet individual needs based on formative assessments paired to high-leveraged and evidence-based practices. Admission to the MAT sequence required to enroll.

Rules & Requirements
Grading Status: Letter grade.

EDUC 794. High-Leveraged Practices in Special Education with a Focus on Mathematics Instruction. 3 Credits.
The course examines specific characteristics of students with mild-to-moderate disabilities in the area of mathematics. The primary focus is on determining instructional mathematics needs for students with disabilities as well as those receiving Tier 2 and 3 interventions through a multi-tiered system of support (MTSS). The course covers how to target mathematics instruction to meet individual needs based on formative assessments paired to high-leveraged and evidence-based practices. Admission to the MAT sequence required.

Rules & Requirements
Grading Status: Letter grade.

EDUC 795. Learning Analytics. 3 Credits.
Students will receive an introduction to learning and learning analytics. Through assignments involving learning by teaching, product evaluations, research reporting, and proposal/design projects, students will learn about various theoretical frameworks, digital learning platforms, and research and evaluation approaches, relevant to the study and production of learning analytics solutions. This is an interdisciplinary course; learning analytics rests at the intersection of learning theory, educational technology, computer and information sciences, and artificial intelligence.

Rules & Requirements
Grading Status: Letter grade.

EDUC 796B. Independent Study Doctoral Level. 1-12 Credits.
Independent study at the doctoral level.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 12 total completions.
Grading Status: Letter grade.

EDUC 796A. Independent Study Master's Level. 1-12 Credits.
Permission of the instructor.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 12 total completions.
Grading Status: Letter grade.

EDUC 797. Collaboration with Families and Other Professionals. 3 Credits.
Instructs students about the resources available to them, their students, and their students' families. Students will develop skills in working with parents and professionals as partners in the instruction and planning of programs for students with learning disabilities.

Rules & Requirements
Grading Status: Letter grade.

EDUC 798. Master's Internship in Learning Disabilities Education. 1-12 Credits.
Provides supervised experience in a phase of special education or literacy studies appropriate to the student's qualifications and future educational goals. May require a minimum of 300 clock hours at the internship site per semester depending on student placement. See your advisor for credit hours needed.

Rules & Requirements
Repeat Rules: May be repeated for credit. 12 total credits. 12 total completions.
Grading Status: Letter grade.

EDUC 800. Diversity in Education. 3 Credits.
Restricted to graduate students in the M.A.T. program. Permission of the instructor for nonmajors. Along with providing overview of schools, their structure, and their role in American society, the course introduces students to the necessity of differentiated instruction based on race, culture, special education, and English as second language learners.

Rules & Requirements
Grading Status: Letter grade.

EDUC 801. Advanced Seminar in Sociocultural Diversity Studies. 3 Credits.
This course provides an in-depth, critical review and analysis of a current topic pertinent to sociocultural diversity in human development. Each offering of this course will focus on a specific domain to be determined by the course instructor in collaboration with the Applied Developmental Science and Special Education program faculty. Potential topics for this course include: The Development of Black, Indigenous, and Persons of Color in America; The Health and Well-Being of LGBTQ+Youth.

Rules & Requirements
Grading Status: Letter grade.

EDUC 802. Foundations of Educational Research. 3 Credits.
Applies the philosophies of science, social science, language, and history (including recent theoretical issues) to the understanding of how educational research is conducted and what contribution it makes.

Rules & Requirements
Grading Status: Letter grade.

EDUC 803. Proseminar in Education. 3 Credits.
Students develop an in-depth understanding of scholarly traditions within education, histories of curricular area and current issues facing these areas and education as a whole, and application of these histories and issues to classrooms and schools.

Rules & Requirements
Grading Status: Letter grade.

EDUC 804. Seminar in Culture, Curriculum, and Change. 3 Credits.
Open to doctoral students only. Critical examination of topics and policy issues related to curriculum and educational change, considered in cultural context.

Rules & Requirements
Grading Status: Letter grade.

EDUC 805A. Professional Seminar I. 3 Credits.
Introductory seminar for graduate students. Review current issues in early childhood, special education, and literacy and introduces students to the research of current faculty members.

Rules & Requirements
Grading Status: Letter grade.

EDUC 805B. Professional Seminar II: Research and Scholarship in the Educational Sciences. 3 Credits.
Course explores history of psychological studies in education and examines areas of current inquiry such as cognition and learning, teaching and instruction, academic motivation, contextual influences, and theory-based intervention.

Rules & Requirements
Grading Status: Letter grade.

EDUC 806. Seminar in Applied Developmental Sciences and Special Education. 3 Credits.
Open to doctoral students only. Critical examination of theoretical and research issues related to learning, development, teaching, assessment, and quantitative methods of research, from a psychological perspective.

Rules & Requirements
Grading Status: Letter grade.

EDUC 807. Social Studies and Arts. 1-9 Credits.
Looks at social studies as a discipline that easily integrates other disciplines, particularly the arts, which includes literature. It emphasizes curriculum and instruction, as well as theoretical underpinnings.

Rules & Requirements
Grading Status: Letter grade.

EDUC 808. Foundations of Clinical Mental Health Counseling. 3 Credits.
An overview of the history of community mental health counseling and current topics impacting the profession. The emerging identity of the clinical mental health counselor is explored in terms of theoretical influences, diverse roles and tasks of counselors within various community settings, and professional ethics. There will be an emphasis on multicultural and social justice perspectives shaping the field of clinical mental health counseling with regards to best practice, research, and program development.

Rules & Requirements
Grading Status: Letter grade.

EDUC 809. Problems in Special Education. 3 Credits.
Permission of the instructor. Provides an opportunity for post-master's students who wish to engage in supervised field and pilot research. May be repeated for credit.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

EDUC 810. Psychology of Career Development. 3 Credits.
Open to doctoral students only. Reviews theories and research in the psychology of career development and counseling. Emphasis is on theory and implications for practice.

Rules & Requirements
Grading Status: Letter grade.

EDUC 811. Problems in School Counseling. 1-21 Credits.
Provides students the opportunity for directed study in school counseling.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

EDUC 812. Doctoral Practicum in School Counseling. 1-21 Credits.
Provides students experiences that may include working with individual, family, or group counseling and consultation.

Rules & Requirements
Grading Status: Letter grade.

EDUC 813. Doctoral Internship in School Counseling. 1 Credits.
Provides students a supervised professional predoctoral internship training experience in counseling.

Rules & Requirements
Grading Status: Letter grade.

EDUC 814. Supervision and Teaching in School Counseling. 3 Credits.
Enables students to gain supervision and teaching skills that will enhance their functions as professors and as leaders in counseling agencies. Strategies of practicum supervision are summarized and research literature is reviewed.

Rules & Requirements
Grading Status: Letter grade.

EDUC 815. Doctoral Seminar in School Counseling. 3 Credits.
Provides an in-depth appraisal of topics of theoretical and/or clinical nature that are of particular relevance to the field.

Rules & Requirements
Grading Status: Letter grade.

EDUC 816. Transformational Education. 3 Credits.
Examines 20th-century schools that have attempted to redefine and deepen United States democracy, embracing pedagogies and values that offer alternatives to mainstream education.

Rules & Requirements
Grading Status: Letter grade.

EDUC 817. Introduction to Educational Research. 3 Credits.
Course provides introduction to purposes of educational research, roles of theories, hypotheses, questions, and ethical issues. While being exposed to a range of research designs, students are to become critical reviewers and develop research proposals or a master's thesis.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

EDUC 818. School Psychology Intervention and Assessment III. 3 Credits.
We will develop knowledge and skills that relate to the implementation of evidenced-based interventions. This innovation implementation course is based on Forman (2009).

Rules & Requirements
Grading Status: Letter grade.

EDUC 819. School Psychology Intervention and Assessment IV. 3 Credits.
This project-based course focuses on utilizing the fields of intervention research and social entrepreneurship to design a novel educational innovation.

Rules & Requirements
Grading Status: Letter grade.

EDUC 820. Doctoral Seminar in Professional School Psychology. 3 Credits.
Required preparation, appropriate courses. Permission of the instructor. Considers advanced topics in the field of school psychology such as professional issues, standards and ethics, and interdisciplinary relations.

Rules & Requirements
Grading Status: Letter grade.

EDUC 821. Doctoral Externship in School Psychology. 1-3 Credits.
Permission of the instructor. Supervised field placement experiences for doctoral-level students in school psychology, integrating training with field responsibilities at a systems level in schools and school-related settings.

Rules & Requirements
Grading Status: Letter grade.

EDUC 822. Doctoral Internship in School Psychology. 1-6 Credits.
Supervised doctoral internship in school psychology for advanced training in professional skills and research in schools and school-related settings.

Rules & Requirements
Requisites: Prerequisite, EDUC 821.
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

EDUC 823. Policy Development in Education. 3 Credits.
Graduate course about the political process and policy dynamics. With a focus on the U.S. domestic context, the course addresses the policy process in general and examines the workings of that process in education.

Rules & Requirements
Grading Status: Letter grade.

EDUC 824. Fundamentals of Educational Research. 3 Credits.
Explores and analyzes the range of educational research designs including experimental, correlational, survey, descriptive, case study, ethnography, narrative, policy, and longitudinal research.

Rules & Requirements
Grading Status: Letter grade.

EDUC 825. Development and Learning. 3 Credits.
Introduces influential theoretical approaches to the study of development and learning. Students learn how to apply various methodological approaches and theoretical frameworks. Readings include developmental psychology, learning sciences, and cultural anthropology.

Rules & Requirements
Repeat Rules: May be repeated for credit. 9 total credits. 3 total completions.
Grading Status: Letter grade.

EDUC 826. Seminar in Mental Health and School-Based Counseling. 3 Credits.
This course provides an overview of some of the major mental health problems facing children and adolescents. Equips students entering the school counseling profession with pivotal knowledge needed to develop and implement comprehensive school counseling programs that include collaborative approaches to addressing mental health and wellness. An emphasis will be placed on cognitive-behavioral research-based methods and strategies for addressing emotional and behavioral difficulties of the most prevalent mental health diagnoses of children and adolescents.

Rules & Requirements
Grading Status: Letter grade.

EDUC 827. Human Development. 3 Credits.
School of Education majors only. Emphasizes theories of child and adolescent development as well as research findings that aid in the understanding of human behavior and development.

Rules & Requirements
Grading Status: Letter grade.

EDUC 828. Educational Measurement and Evaluation. 3 Credits.
Identifies the basic concepts in measurement and evaluation, describes the role of evaluation in curriculum construction and revision, and describes the development and use of teacher-constructed tests.

Rules & Requirements
Grading Status: Letter grade.

EDUC 829. Applied Measurement Theory for Education. 3 Credits.
An examination of the logic and theory of educational measurement. Practical applications of measurement theory to the construction and use of a variety of educational measurement devices.

Rules & Requirements
Grading Status: Letter grade.

EDUC 830. Qualitative Research Methods I: Philosophical Foundations of Qualitative Research. 3 Credits.
This course serves as an introduction to the foundations of qualitative research, including histories and philosophies that shape methods and frameworks for conducting research, as well as the importance of core concepts such as subjectivity, positionality, ontology, and epistemology. Students will learn skills such as developing basic research designs, research questions for conducting interviews, as well as preliminary approaches to data analysis. Throughout the semester, students learn to critically read and write about qualitative research while gaining understandings of this field of inquiry.

Rules & Requirements
Grading Status: Letter grade.

EDUC 831. School Law: Justice and Equity. 3 Credits.
Required preparation, six semester hours of graduate school work in school administration. Provides an overview of the legal structure of education, liability, constitutional rights, contractual relationships, federal regulations, and collective action. May be repeated for credit.

Rules & Requirements
Grading Status: Letter grade.

EDUC 832. Politics of Education. 3 Credits.
Students study the politics surrounding the nation's largest public institution (education) along with the motivations and maneuvering of people with power to shape it.

Rules & Requirements
Grading Status: Letter grade.

EDUC 833. Development and Systems Leadership. 3 Credits.
Focused on the issues pertaining to personnel, planning, facilities, administrative applications of technology, superintendent/board relations, district-level curriculum and assessment issues, and creating and sustaining community inter-agency partnerships.

Rules & Requirements
Grading Status: Letter grade.

EDUC 834. Organizational Behavior and Theory in Education. 3 Credits.
Permission of the instructor. Analyze the theoretical assertions and empirical knowledge claims that have led to the dominant structures, power relationships, and performance expectations of American schools.

Rules & Requirements
Grading Status: Letter grade.

EDUC 835. Instructional Leadership for Supervision, Curriculum, and Technology. 3 Credits.
Provides fundamental knowledge of instructional design, techniques of teaching/learning, evaluation of the teaching/learning process, and ways in which school-based leaders can support excellence in classroom instruction.

Rules & Requirements
Grading Status: Letter grade.

EDUC 836. School Finance and Economic Equity. 3 Credits.
Covers the area of financing school corporations in the current economic and political setting, with emphasis on the interrelationships of educational, economic, and political decisions. May be repeated for credit.

Rules & Requirements
Grading Status: Letter grade.

EDUC 837. Cultural Aspects of Leadership and Instruction in School Reform. 3 Credits.
Designed to provide students with perspectives regarding the interplay of cultural issues that challenge the partnership between administration and instruction.

Rules & Requirements
Grading Status: Letter grade.

EDUC 838. School Governance. 3 Credits.
Permission of the instructor. Focuses on governance and policy at the school building level and how district-wide governance, state educational policy, federal involvement in education, and educational special interest groups impact school-sized governance.

Rules & Requirements
Grading Status: Letter grade.

EDUC 839. The Excellent School Seminar I. 3 Credits.
Permission of the instructor. Research and models on high-performing organizations, instructionally effective schools and school systems, and national school reform efforts presented in the context of traditional and emerging organizational theory and research. .

Rules & Requirements
Grading Status: Letter grade.

EDUC 840. Advanced Leadership Theories. 3 Credits.
Requires students to integrate previous studies to focus on management applications, dilemmas, and conflicts.

Rules & Requirements
Requisites: Prerequisites, EDUC 727, 750, 832, and 834.
Grading Status: Letter grade.

EDUC 841. Development of a Research Proposal. 3 Credits.
Requires students to integrate previous studies to focus on theory, inquiry, and organizational practice.

Rules & Requirements
Requisites: Prerequisites, EDUC 727, 832, and 834.
Grading Status: Letter grade.

EDUC 842. The Excellent School Seminar II. 3 Credits.
Permission of the instructor. Research and models on high-performing organizations, instructionally effective schools and school systems, and national school reform efforts presented in the context of traditional and emerging organizational theory and research.

Rules & Requirements
Grading Status: Letter grade.

EDUC 843. Seminar in Educational Studies. 3 Credits.
Focuses on educational issues and theories involving culture, curriculum, and change. Issues and theories addressed will vary.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 6 total credits. 2 total completions.
Grading Status: Letter grade.

EDUC 844. Advanced Seminar and Supervised Internship in Educational Administration. 1-6 Credits.
An advanced internship and seminar relevant to the program in administration and to the student's progress toward advanced administrative certification. May be repeated for credit.

Rules & Requirements
Requisites: Prerequisites, EDUC 727, 750, 832, 834; Permission of the instructor for students lacking the prerequisites.
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

EDUC 845. Instructional Strategies for Teaching and Learning in Digital Contexts. 3 Credits.
Will prepare students to enact evidence-based strategies that integrate digital tools and resources for delivering instruction in blended, hybrid, and fully online contexts. Students will design an aligned unit of instruction that includes objectives, assessments, and instructional activities that adhere to instructional design standards and utilize an array of contemporary digital tools. Will consider design approaches that enable the gathering and visualization of data that reflect student activity and performances.

Rules & Requirements
Grading Status: Letter grade.

EDUC 846. Personalized and Adaptive Learning. 3 Credits.
This blended, seminar-and-workshop style course (1) provides an overview of learning and instructional design theories, then (2) introduces ways that theory can guide personalization of instructional materials and provision of adaptive design features to produce improved learning experiences and outcomes. Personalization topics in include definitions and policies, approaches that accommodate learners' interests, and ways to provide choice and promote ownership of learning. Adaptivity topics include provision of feedback and support, and designing for learning efficiency.

Rules & Requirements
Grading Status: Letter grade.

EDUC 850. Change Leadership and Systems Improvement. 3 Credits.
The course is a core requirement for all students enrolled in the Interprofessional Certificate in Improvement Science and Implementation as well as the Masters of School Administration program. Introduces students to cutting-edge approaches to change leadership and system improvement. It leverages lessons from implementation and improvement sciences to help students learn to drive system change in the nation's schools, social service agencies, community organizations, and healthcare settings.

Rules & Requirements
Grading Status: Letter grade.

EDUC 851. Curriculum Theory. 3 Credits.
Relates curriculum development to relevant theories and research in humanistic and behavioral studies. This is an advanced course.

Rules & Requirements
Grading Status: Letter grade.

EDUC 852. Instructional Systems Development. 3 Credits.
Delineates strategies for developing instructional systems, including needs assessment, job analysis, goal setting, use of criterion tests, delivery systems, project management, and evaluation of learners and programs.

Rules & Requirements
Grading Status: Letter grade.

EDUC 853. Supervision and Instruction. 3 Credits.
Examines the history, nature, and purposes of educational supervision, with an emphasis on the supervisor's role in improving teaching, curriculum development, and staff development.

Rules & Requirements
Grading Status: Letter grade.

EDUC 854. Seminar in Curriculum and Instruction. 3 Credits.
Review and interpretation of existing research in the area of curriculum and instruction.

Rules & Requirements
Grading Status: Letter grade.

EDUC 855. Problems in Curriculum and Instruction. 3-6 Credits.
Required preparation, two courses in graduate education. Provides an opportunity for advanced students to do independent study under supervision in an area of study. (Sections include early childhood, intermediate, secondary subjects, media, literacy, and general.) May be repeated for credit.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

EDUC 856. Practicum in Curriculum and Instruction. 3-6 Credits.
Experiences may include projects, field studies, or internships with one of a number of agencies concerned with education. (Sections include early childhood, intermediate, secondary subjects, media, literacy, and general.)

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

EDUC 857. Research Apprenticeship. 1-6 Credits.
Research apprenticeship for all students in the Curriculum and Instruction Ed.D. program. Individually arranged with a faculty advisor and an appropriate placement.

Rules & Requirements
Grading Status: Letter grade.

EDUC 858. Foundations of Inquiry - Quantitative. 3 Credits.
In this course we focus on quantitative forms of inquiry, highlighting the types of questions quantitative data are best positioned to answer and common forms of data collection and analysis. To foster your development as a scholar-practitioner, the course will provide you with the foundational knowledge to be a discerning consumer of quantitative research and help you find the tools to answer your own well-formed practice-based research questions. For students enrolled in the online Ed.D. in Organizational Learning and Leadership program cohort.

Rules & Requirements
Grading Status: Letter grade.

EDUC 859. Foundations of Inquiry - Qualitative. 3 Credits.
Foundations of Inquiry -- Qualitative Methods is a graduate level course designed to support students in developing an understanding of qualitative research methods and designs. The focus of this course is on the creation of research questions, the development of qualitative designs, employment of data collection approaches, and analysis procedures to address those problems. For students enrolled in the online Ed.D. in Organizational Learning and Leadership program cohorts.

Rules & Requirements
Grading Status: Letter grade.

EDUC 861. Seminar in Special Education. 3 Credits.
Emphasis on developmental deviation exhibited by exceptional children in cognitive, language, social, and affective development.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

EDUC 862. Teaching and Personnel Development. 3 Credits.
Focuses on teaching and personnel development at the preservice and inservice levels. Topics include: application of adult learning principles and styles; syllabus development; technology and teaching; supervision; mentorship and research innovations in college teaching.

Rules & Requirements
Grading Status: Letter grade.

EDUC 864. Families, Schools, and Child Development: Successful Intervention Strategies. 3 Credits.
The purpose of this seminar is to provide an introduction to the theory, research, methods, and current issues related to the influence of families and schools on children's development.

Rules & Requirements
Grading Status: Letter grade.

EDUC 865. College Teaching Internship. 1-3 Credits.
Open to graduate students only. Permission of the instructor. This course is designed to give doctoral and masters' students experience at college teaching prior to taking on full responsibility for a class of her/his own. The student will fully participate as a teaching assistant in the class of an experienced tenured, tenure track, or clinical professor.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

EDUC 866. Policy to Practice. 3 Credits.
Examine relationships between broader social, economic, and political currents and the chosen instruments for education reform. Students examine what purposes stakeholders believe schools serve and how policy is/isn't translated into practice.

Rules & Requirements
Grading Status: Letter grade.

EDUC 867. Issues in Educational Policy and Research. 3 Credits.
Course familiarizes students with public policy in education and its influence on schools and schooling. Students learn methodological perspectives of education policy research. Examine major policy initiatives in education.

Rules & Requirements
Grading Status: Letter grade.

EDUC 868. Qualitative Research II: Data Collection. 3 Credits.
This course introduces students to field research methods and analysis of qualitative data that focuses on the application of these techniques in evaluation and policy research.

Rules & Requirements
Grading Status: Letter grade.

EDUC 869. Qualitative Research III: Data Analysis. 3 Credits.
This advanced seminar focuses on the needs of doctoral students immersed in qualitative research, with an emphasis on data analysis and representation.

Rules & Requirements
Grading Status: Letter grade.

EDUC 870. The Business of Education. 3 Credits.
This course is designed to provide students with a foundational understanding of the education sector and the multiple types of organizations that operate within it. The multiple activities, assignments, and topics of study in this course are aligned to the following learning objectives and outcomes.

Rules & Requirements
Grading Status: Letter grade.

EDUC 871. Seminar in Education. 3 Credits.
Required preparation, two courses in graduate education. Permission of the instructor. Provides for seminar treatment of appropriate topics.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

EDUC 873. Problems in the Philosophical Foundations of Education. 3-21 Credits.
Provides an opportunity for advanced doctoral students to do independent study under supervision.

Rules & Requirements
Requisites: Prerequisite, EDUC 779.
Grading Status: Letter grade.

EDUC 874. Problems in the Sociological Foundations of Education. 3-21 Credits.
Provides an opportunity for advanced doctoral students to do independent study under supervision.

Rules & Requirements
Requisites: Prerequisite, EDUC 772.
Grading Status: Letter grade.

EDUC 876. Histories of School and Schooling. 3 Credits.
Course provides an understanding of the history of American public education, its current status and research in education based in a larger context of society, and its schools and schooling practices.

Rules & Requirements
Grading Status: Letter grade.

EDUC 877. Critical Multicultural Education. 3 Credits.
Examination of the current issues in multicultural education, cultural study, and the development of curriculum for critical multicultural education.

Rules & Requirements
Grading Status: Letter grade.

EDUC 878. Seminar in Educational Studies. 3 Credits.
Involves an in-depth exploration of theories and issues involving culture, curriculum, and change. Topics will vary.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

EDUC 879. Causal Inference in Educational Research. 3 Credits.
The seminar will explore issues related to causal inference in educational research and discuss several research designs that are well-suited for making causal inferences. We will draw upon the counter-factual model of causality to discuss what it means to observe a cause and effect relationship and then focus on the problems researchers regularly encounter. The course will provide a detailed discussion of a wide range of experimental and quasi-experimental research designs.

Rules & Requirements
Grading Status: Letter grade.

EDUC 881. Seminar in Human Development and Individual Differences. 3 Credits.
Required preparation, at least one course in human development at the graduate level or permission of the instructor. Analyzes research data and theoretical positions pertaining to individual differences in human development in the educational setting.

Rules & Requirements
Grading Status: Letter grade.

EDUC 882. Seminar in Human Learning and Cognition. 3 Credits.
Required preparation, one or two courses in educational and developmental psychology. Studies theoretical aspects and practical implications of psychologies of learning.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

EDUC 883. Case Study Methods. 3 Credits.
Provides students with an overview of the methodology of case study research and to enhance students' skills in using research techniques.

Rules & Requirements
Grading Status: Letter grade.

EDUC 884. Statistical Analysis of Educational Data III. 3 Credits.
An extension of the general linear model to analysis of educational data with multiple dependent variables, with computer applications.

Rules & Requirements
Requisites: Prerequisites, EDUC 710 and 784.
Grading Status: Letter grade.

EDUC 885. Secondary Data Analysis. 3 Credits.
Provides students who have an introductory background in statistics with an overview of secondary data analysis and enhances students' skills in using data analysis to test hypotheses.

Rules & Requirements
Grading Status: Letter grade.

EDUC 887. Teacher Education Seminar for MAT Supervisors. 1 Credits.
This course is required during both fall and spring semesters for all MAT supervisors. The course will focus on exploring teacher education through the lens of field-based supervision. Weekly meetings to bring teacher education research and literature to supervisors' ongoing practice through discussion of selected readings, book study, dialogue about problems of practice. The course will align supervisors' practice in the field with MAT methods pedagogical approaches for supervisors to best support candidates.

Rules & Requirements
Requisites: Prerequisite, EDUC 754 highly recommended but not required.
Grading Status: Letter grade.

EDUC 888. Introduction to Structural Modeling. 3 Credits.
Introduces structural equation modeling with both observed and latent variables. Applications include confirmatory factor analysis, multiple group analyses, longitudinal analyses, and multitrait-multimethod models.

Rules & Requirements
Grading Status: Letter grade.

EDUC 890. Special Topics in Education. 1-3 Credits.
This course provides students the opportunity for intensive exploration and discussion of selected topics in education.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

EDUC 891. Educational Policy Doctoral Seminar. 3 Credits.
Provides for seminar treatment of appropriate topics related to education policy.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

EDUC 893. Foundations of Leadership. 3 Credits.
The course aims to provide a systematic examination of leadership in practice and how these examples result in successful leadership practices relative to theories of leadership, ethical frameworks, and your personal strengths and abilities. From these reflections you will develop an intellectually rigorous, personal statement of leadership. For students enrolled in the online Ed.D. in Organizational Learning and Leadership program cohort.

Rules & Requirements
Grading Status: Letter grade.

EDUC 894. Item Response Theory. 3 Credits.
A first course in test theory (e.g., EDUC 829, PSYC 842) is recommended but not required. Please ask the course instructor if you are unsure about prerequisites. This course covers basic and advanced topics in item response theory (IRT). Examples are taken from educational testing, psychological assessment, and patient-reported health outcomes. Students produce a term project applying IRT to assessment data, and / or addressing mathematical or computational aspects of IRT.

Rules & Requirements
Requisites: Prerequisite, EDUC 784 or PSYC 831.
Grading Status: Letter grade.
Same as: PSYC 894.

EDUC 902. Sociology of School Improvement. 3 Credits.
This course aims to develop a sociological understanding of the complex relationship between education and society.

Rules & Requirements
Grading Status: Letter grade.

EDUC 904. Exploring Representations of Education in Popular Culture. 3 Credits.
Students in this course explore and analyze how education has been represented in popular culture. Theoretical foundation of the course from seminars and readings.

Rules & Requirements
Grading Status: Letter grade.

EDUC 905. Leading Organizations to Equitable Practice. 3 Credits.
This course will provide the foundational knowledge for creating, sustaining, and leading an inclusive culture within organizations. You will learn to incorporate multiple stakeholders' voices within and outside the organization through an equity-minded leadership lens. We will place a strong emphasis on collaboration and coalition building within organizations to create an effective organizational culture in which all stakeholders can thrive. For students enrolled in the online Ed.D. in Organizational Learning and Leadership program cohort.

Rules & Requirements
Grading Status: Letter grade.

EDUC 906. Education of African Americans. 3 Credits.
Students examine historical and contemporary aims for and assumptions underlying the public "education" of African Americans in the United States. Analysis of published histories, theories, qualtitative and quantitative research, encounters, events, and issues.

Rules & Requirements
Grading Status: Letter grade.

EDUC 909. Applied Quantitative Methods in Curriculum and Teacher Education. 3 Credits.
Applied statistics course designed to introduce students to how descriptive and inferential statistics are used in curriculum studies and teacher education. Students explore how statistical procedures are used in school, school district, state, and national settings.

Rules & Requirements
Grading Status: Letter grade.

EDUC 914. Applied Qualitative Methods. 3 Credits.
This course will provide students with opportunities to collect, analyze, and use data and evidence to evaluate and reflect on the process of organizational learning, while learning to make ethical and effective methodological choices that support organizational improvement and advancement.

Rules & Requirements
Grading Status: Letter grade.

EDUC 915. Introduction to Learning Sciences. 3 Credits.
Course is designed to provide an overview of the field of learning sciences. Goals of learning sciences are: 1) understand the physical, cognitive, and social aspects of learning environments and 2) use these understandings to design more effective learning environments.

Rules & Requirements
Grading Status: Letter grade.

EDUC 918. Introduction to Cognitive Science and Sociocultural Perspectives on Learning. 3 Credits.
Course provides an overview of learning theories in education with a special emphasis upon a sociocultural perspective. Course examines how learning theories are or can be enacted in research, policy, and practice.

Rules & Requirements
Grading Status: Letter grade.

EDUC 919. Design of Technology-Enhanced Learning Environments. 3 Credits.
This course provides a studio-based approach to the design of technology-enhanced learning environments for formal and informal education. Students will explore various forms of emerging technologies for education, engage in a design thinking process, and design prototypes to solve a specific learning problem.

Rules & Requirements
Requisites: Prerequisite, EDUC 824 or equivalent.
Grading Status: Letter grade.

EDUC 920. Change Leadership Across Organizational Systems. 3 Credits.
Course examines the complex dynamics of organizational change and leadership within a broad range of contexts. Through a critical analysis of change theories, leadership models, and case studies, students will explore strategies to successfully lead and manage change processes in organizations. Emphasis on understanding the social, cultural, and structural factors influencing change, including ethical and strategic considerations necessary for effective leadership. Students will engage in applied research, reflective practice, and collaborative projects to develop advanced competencies in diagnosing organizational challenges, designing change initiatives, and fostering resilient leadership practices through a blend of learning to make connections between theory and practice.

Rules & Requirements
Grading Status: Letter grade.

EDUC 922. Mixed Methods Research. 3 Credits.
Explore foundations of mixed methods. Build familiarity with research designs and methods, learning how to integrate data from mixed methods designs. Learn to critique mixed methods research and designs. Provides preparation for proposing mixed methods projects.

Rules & Requirements
Grading Status: Letter grade.

EDUC 923. Design Based Research. 3 Credits.
DBR is a multi-disciplinary and mixed methods approach. When developing interventions DBR designers draw theoretical insights from various disciplines (e.g. cognitive science, sociology, learning sciences, instructional design, etc.). When researching interventions, DBR researchers draw from numerous modes of inquiry. Thus, this course is not a substitute for further work in quantitative or qualitative courses. Students in this course should have some grounding in quantitative and qualitative methods and we draw upon this knowledge.

Rules & Requirements
Grading Status: Letter grade.

EDUC 930. Economics of Education. 3 Credits.
Students consider and critically reflect upon the contributions of economic theory to educational policy issues. Course provides an overview of economic theories as they pertain to the provision of public education and an overview of econometrics. Focuses on salient topics in educational policy and their analysis through an economic lens.

Rules & Requirements
Grading Status: Letter grade.

EDUC 931. School Law and Public Policy. 3 Credits.
Course examines the judiciary's role in policy making, and its direct impact on school law and policy issues as they pertain to schools, stakeholders, and society.

Rules & Requirements
Grading Status: Letter grade.

EDUC 935. Multilevel Modeling. 3 Credits.
The primary goal for the course is to assist the students in investigating research problems in social sciences, particularly when data is meaningfully organized into multiple layers as a hierarchy, or contextual levels. Multilevel models (MLM) are also known as hierarchical linear models (HLM), random coefficient models, or random effects models. MLM can be used to analyze a variety of questions with either categorical or continuous dependent variables, and explained by many independent variables.

Rules & Requirements
Requisites: Prerequisites, EDUC 710 and 784; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

EDUC 947. Diversity in Teacher Education. 3 Credits.
Focus on research in teacher education that addresses diversity issues, a particular focus on sociocultural and sociopolitical approaches. Course emphasizes the relationship between theory and practice by focusing on the teacher as an agent of change.

Rules & Requirements
Grading Status: Letter grade.

EDUC 948. Research in Teacher Education and Diversity. 3 Credits.
Course looks at research in teacher education that addresses diversity issues, with a particular focus on sociocultural and sociopolitical approaches. Course will emphasize the relationship between theory and practice by focusing on the teacher as an agent of change in addressing issues of equity and social justice in diverse classrooms.

Rules & Requirements
Grading Status: Letter grade.

EDUC 949. Institutional Logics of Curriculum and Teaching. 3 Credits.
Learn about institutional theory and management and issues, policies and practices that describe, define, complicate, and confine those whose work focuses on curriculum and teaching.

Rules & Requirements
Grading Status: Letter grade.

EDUC 950A. Advanced Curriculum in the Humanities. 3 Credits.
Course brings together those with interests in academic disciplines of literature, history, foreign languages and literatures, English as a second language, and the arts to examine the status of the humanities in our society and in our P-12 schools. Students will consider socio-cultural and political contexts and contributions to the humanities.

Rules & Requirements
Grading Status: Letter grade.

EDUC 953. Research and Policy in Teacher Education. 3 Credits.
Study different approaches taken to studying teacher education and the implications of that work on policy, tracing the trajectory from research to policy.

Rules & Requirements
Grading Status: Letter grade.

EDUC 954. Leading Organizations to Equitable Practice. 3 Credits.
This course will provide the foundational knowledge for creating, sustaining, and leading an inclusive culture within organizations. You will learn to incorporate multiple stakeholders' voices within and outside the organization through an equity-minded leadership lens. We will place a strong emphasis on collaboration and coalition building within organizations to create an effective organizational culture in which all stakeholders can thrive. This course is core course in the curriculum for the EdD concentration in Organizational Learning and Leadership.

Rules & Requirements
Grading Status: Letter grade.

EDUC 956. Applied Quantitative Methods. 3 Credits.
In this course, students learn how to analyze quantitative data from various sources (e.g., administrative, survey) to answer pragmatic questions. The course focuses on generating and interpreting graphical descriptive summaries and the associations between multiple continuous or categorical variables. You will also be introduced to the inferential statistics concepts of hypothesis testing and confidence intervals to characterize the uncertainty of conclusions based on the data. Students will use data visualization software. This course is a required methods course in the curriculum for the EdD concentration in Organizational Learning and Leadership.

Rules & Requirements
Grading Status: Letter grade.

EDUC 970. Applied Theory and Research: Dissertation Proposal Prep. 3 Credits.
Course explores planning and conducting qualitative research. Students will apply knowledge of qualitative research to dissertation proposal/projects. They will also explore different research proposals and data collection strategies.

Rules & Requirements
Grading Status: Letter grade.

EDUC 972. Critical Race Theory: History, Research, and Practice. 3 Credits.
Course will explore the historical development of Critical Race Theory (CRT) from its origins in Critical Legal Studies through the more recent frameworks established in education, including intersections with LatCrit Theory, AsianCrit, QueerCrit, TribalCrit, and Critical Race Feminism.

Rules & Requirements
Grading Status: Letter grade.

EDUC 973. Schooling Experiences of Men of Color. 3 Credits.
Focus, through a critical lens, will be on African American and Latino men, also covers experiences of Asian American and Native American males. Study of research that addresses issues of identity, masculinities, system barriers, cultural capital, and peer group dynamics.

Rules & Requirements
Grading Status: Letter grade.

EDUC 974. Critical Social Theory. 3 Credits.
Course explores critical social theories through popular culture texts. Course challenges the perception that popular culture texts have little to offer in the way of educational discourse.

Rules & Requirements
Grading Status: Letter grade.

EDUC 977. Autoethnography Educational Research. 3 Credits.
Course will focus on the theory and practice of autoethnography, or "reading" significant patterns in everyday experience and connecting those patterns to the self and to broader social concerns. Students will read models of autoethnography, methodological works, do writing exercises, and create independent autoethnographic projects.

Rules & Requirements
Grading Status: Letter grade.

EDUC 990. Supervised Research. 1-3 Credits.
Open to graduate students only. Provides students with the opportunity to work with individual faculty members in collaborative research activities in association with a seminar during the second, third, and fourth semesters of study. May be repeated for credit.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

EDUC 992. Master's (Non-Thesis). 3 Credits.
Focuses on the development of a master's project or a major paper other than a thesis.

Rules & Requirements
Repeat Rules: May be repeated for credit.

EDUC 993. Master's Research and Thesis. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

EDUC 994. Doctoral Research and Dissertation. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

EDMX

Graduate-level Courses

EDMX 704. Literacy Reflection. 3 Credits.
Focuses on reflective literacy teaching: problematizing, processes of understanding students' thinking about reading and writing.

Rules & Requirements
Grading Status: Letter grade.

EDMX 706. Assessment and Accountability. 3 Credits.
Provides students with the opportunity to review, renew, and expand their understanding of assessment and program evaluation procedures, as well as the role of accountability in educational settings.

Rules & Requirements
Grading Status: Letter grade.

EDMX 707. Reinventing Teaching. 3 Credits.
Admission to the M.Ed. for experienced teachers program required. Addresses contexts of teaching, teaching in the world, and teaching students in schools. This course is designed for experienced educators to "reinvent teachers and teaching."

Rules & Requirements
Grading Status: Letter grade.

EDMX 708. Teacher Researcher I. 1-3 Credits.
Enrollment in the M.Ed. for Experienced Teachers program required. Explores the meanings of research and the potential roles of teachers in conducting research. Teachers formulate possible individual or small group research projects that they can carry out during the year.

Rules & Requirements
Grading Status: Letter grade.

EDMX 709. Teacher Researcher II. 3 Credits.
Teachers will plan and conduct advanced inquiry/research projects informed by their knowledge of teacher-research and their experience as teacher-researchers garnered through their successful completion of EDMX 708.

Rules & Requirements
Grading Status: Letter grade.

EDMX 710. Teacher Leadership for a Democratic Society. 3 Credits.
Focuses on the nature of change and teachers' roles as leaders within a changing environment. Several themes are addressed: shaping school cultures, schools as communities, schools as sites for reform, and politics and schools.

Rules & Requirements
Grading Status: Letter grade.

EDMX 715. Assessment and Differentiation. 1 Credits.
Enrollment in the M.Ed. for experienced teachers program required. Enhances teachers' understanding of how to differentiate assessment.

Rules & Requirements
Requisites: Prerequisite, EDMX 707.
Grading Status: Letter grade.

EDMX 716. Assessment and Differentiation. 3 Credits.
Enrollment in the M.Ed. for experienced teachers program required. Enhances teachers' understanding of how to differentiate instruction. Using a case-based approach, teachers examine the areas of human development, special education and inclusion, cultural diversity, linguistic diversity, cognitive styles, and multiple intelligences as frames through which to consider creative environments to promote students' classroom success.

Rules & Requirements
Grading Status: Letter grade.

EDMX 721. Content-Area Reading and Writing. 3 Credits.
Focuses on current theory, research, and issues in the teaching and use of reading and writing in the content areas. This is an introductory course.

Rules & Requirements
Grading Status: Letter grade.

EDMX 722. Advanced Reflective Literacy Teaching. 3 Credits.
Teachers will learn how to problematize assessment of students' thinking about reading and writing in this practicum course.

Rules & Requirements
Grading Status: Letter grade.

EDMX 723. Number Systems and Operations: K-5 Mathematical Tasks. 3 Credits.
Course has major restrictions. Analysis and construction of effective mathematical tasks in teaching number systems and operations at the K-5 level; attention is also given to the expansion of content knowledge.

Rules & Requirements
Grading Status: Letter grade.

EDMX 724. Data Analysis and Measurement: K-5 Classroom Interactions. 3 Credits.
Course has major restrictions. Focuses on statistical literacy of elementary teachers and the teaching of data analysis and measurement to K-5 students; attention is also given to learning methods that facilitate appropriate classroom interactions.

Rules & Requirements
Grading Status: Letter grade.

EDMX 725. Rational Numbers and Operations: K-5 Learning Trajectories. 3 Credits.
Course has major restrictions. Focuses on rational number concepts through learning trajectories at the K-5 level. Attention also given to problem solving and content knowledge.

Rules & Requirements
Requisites: Prerequisite, EDMX 723.
Grading Status: Letter grade.

EDMX 726. Revisiting Real Numbers Concepts. 3 Credits.
Uses a problem-based format and group work to explore the mathematics of the real numbers with an emphasis on rational numbers.

Rules & Requirements
Grading Status: Letter grade.

EDMX 727. Algebraic Reasoning: K-5 Discourse and Questioning. 3 Credits.
Course has major restrictions. Focus on the early algebra concepts of functional thinking and generalized arithmetic in relationship to pedagogical practices centered on questioning in the mathematics classroom.

Rules & Requirements
Requisites: Prerequisite, EDMX 723.
Grading Status: Letter grade.

EDMX 728. Topics in Mathematics Education: Geometry. 1-3 Credits.
Provides students with a mathematical foundation and cognitive support for elementary and middle school geometry. Specific goals address structure of elementary and middle school geometry.

Rules & Requirements
Grading Status: Letter grade.

EDMX 730. Geometry and Spatial Visualization: K-5 Assessment. 3 Credits.
Course has major restrictions. Geometric concept development along with formative and summative assessment strategies of students' geometric thinking. Attention also is given to geometric content knowledge and diagnosis of student errors.

Rules & Requirements
Grading Status: Letter grade.

EDMX 731. Writing in the 21st Century. 3 Credits.
Focuses on the writing process and the theoretical foundations necessary to become practitioners who can develop and implement effective writing instruction using 21st-century skills.

Rules & Requirements
Grading Status: Letter grade.

EDMX 732. Explorations in Literacy. 3 Credits.
Explores what it means to be a reader and writer, the nature of development of literacy.

Rules & Requirements
Grading Status: Letter grade.

EDMX 733. Spanish for Educators. 3 Credits.
This graduate-level course is an introductory immersion-style Spanish course for anyone involved in education. Learners will acquire novice-level proficiency in Spanish and an awareness of Hispanic culture.

Rules & Requirements
Grading Status: Letter grade.

EDMX 734. Revisiting Literacy. 3 Credits.
Explores literacy topics as capstone course for master's or licensure program in literacy.

Rules & Requirements
Grading Status: Letter grade.

EDMX 735. Math and Content Area Methods: Special Education, General Curriculum. 3 Credits.
Students will learn characteristics of students with mild to moderate learning disabilities in math, social studies, and science. They will also learn assessment techniques and instructional methods to address these specific characteristics.

Rules & Requirements
Grading Status: Letter grade.

EDMX 736. Mathematical Modeling: K-5 Leadership. 3 Credits.
Restricted to majors. Generating mathematical representations and making explicit connections between concepts. Pedagogy designed to equip elementary teachers to become mathematics teacher-leaders in school settings. Focuses on topics integrated within mathematical strands.

Rules & Requirements
Requisites: Prerequisites, EDMX 723, 724, 725, 727, and 730.
Grading Status: Letter grade.

EDMX 757. Social Studies Pedagogy A. 1-9 Credits.
Designed to extend students' professional content knowledge by exploring the content and methods of a social science discipline.

Rules & Requirements
Grading Status: Letter grade.

EDMX 758. Social Studies Pedagogy B. 3 Credits.
Designed to extend students' professional content knowledge by exploring the content and methods of a social science discipline.

Rules & Requirements
Grading Status: Letter grade.

EDMX 759. Contemporary Research for Social Studies Teaching. 3 Credits.
Focuses on current research topics and methodologies in the field of social studies education and examines their implications on the field.

Rules & Requirements
Grading Status: Letter grade.

EDMX 760. Integrated Learning. 3 Credits.
Builds on earlier coursework and will include teachers from each of the two concentrations in the M.Ed. for Experienced Teachers. It focuses on exploring what is meant by integrated curriculum and understanding the process of developmental research as it relates to the design and use of curricula.

Rules & Requirements
Grading Status: Letter grade.

EDMX 761. Social Studies/Humanities. 1-9 Credits.
Aims to develop social studies teachers' understanding of social science and humanities through an interdisciplinary inquiry process.

Rules & Requirements
Grading Status: Letter grade.

EDMX 762. Advanced Emergent and Early Literacy. 3 Credits.
Advanced course on emergent and early literacy, focusing on the research and theory in the development of reading and writing processes from birth through first grade, emphasizing the cognitive and socio-cultural perspectives.

Rules & Requirements
Grading Status: Letter grade.

EDMX 763. Diversity Global Education. 1-9 Credits.
Provides a linked perspective on international studies and multicultural education. Students explore issues relevant to these two topics as they relate to teaching and learning in social studies.

Rules & Requirements
Grading Status: Letter grade.

EDMX 764. Families and Teams in Early Childhood Intervention: Interdisciplinary Perspectives. 3 Credits.
Open to graduate students only. Explores issues and models of family-professional and interprofessional relationships in early childhood settings. Collaborative communication and problem-solving strategies are emphasized in the context of diversity.

Rules & Requirements
Grading Status: Letter grade.

EDMX 765. Early Childhood Assessment Strategies. 3 Credits.
Open to graduate students only. Provides an overview and application of strategies for developmental screenings, normative evaluations, curriculum, and play-based assessments for young children ages birth through five.

Rules & Requirements
Grading Status: Letter grade.

EDMX 766. Preschool/Kindergarten Curriculum and Learning Environments. 3 Credits.
Open to graduate students only. Focuses on individually, developmentally, and culturally appropriate learning environment and curriculum strategies for young children with and without disabilities ages three to five.

Rules & Requirements
Grading Status: Letter grade.

EDMX 767. Infant/Toddler Curriculum and Learning Environment. 3 Credits.
Focuses on infant/toddler development and mental health strategies for facilitating development in the home and in child care.

Rules & Requirements
Grading Status: Letter grade.

EDMX 768. Professional Development and Leadership in Early Childhood Intervention. 3 Credits.
Focuses on leadership skills in mentoring, supervision, staff development, resource gathering, and applied research related to early childhood settings.

Rules & Requirements
Requisites: Prerequisites, EDMX 764, 765, and 766.
Grading Status: Letter grade.

EDMX 775. Seminar in Science Education. 3 Credits.
Teaches students curriculum and instruction strategies in science education. The focus of the course is on teaching and assessing science for conceptual understanding.

Rules & Requirements
Grading Status: Letter grade.

EDMX 776. Perspectives on Science Education: Physical Science. 3 Credits.
Examines physical science domains in depth. Students reflect on their own understandings of science phenomena and research their students' understandings.

Rules & Requirements
Grading Status: Letter grade.

EDMX 777. Perspectives on Science Education: Life Science. 3 Credits.
Studies the history of science education, curriculum design, and national reform ideas as well as projects and programs currently used in United States classrooms.

Rules & Requirements
Grading Status: Letter grade.

EDMX 778. Perspectives of Science Education: Earth, Space, and Environmental Science. 3 Credits.
Explores current reforms in science education through an examination of critical topics in earth-space science.

Rules & Requirements
Grading Status: Letter grade.

EDMX 779. Big Ideas in Science Education. 3 Credits.
Through investigations, research, and guest speakers, this course engages students in discussions about teaching science in conjunction with issues of technology and society.

Rules & Requirements
Grading Status: Letter grade.

EDMX 782. Behavioral Support Techniques. 3 Credits.
Emphasizes effective behavior management and applied behavior analysis techniques for intervening in the environments of exceptional children to increase learning.

Rules & Requirements
Grading Status: Letter grade.

EDMX 789. Designing Problem Tasks for Mathematics. 1-3 Credits.
Focuses on the analysis and construction of mathematics instructional activities.

Rules & Requirements
Grading Status: Letter grade.

EDMX 792. Problem-Based Learning in Mathematics. 1-3 Credits.
Focuses on the analysis and construction of mathematics instructional activities: tasks, problems, and materials with which students and teachers engage.

Rules & Requirements
Grading Status: Letter grade.

EDMX 794. Developing Mathematical Knowledge. 3 Credits.
Designed to help teachers think through the major mathematical ideas of the curriculum and to examine how students develop these ideas.

Rules & Requirements
Grading Status: Letter grade.

EDMX 810. Culturally Responsive Teaching. 2 Credits.
This course initiates thoughtful discussion of race and culture in our schools by exploring history, identity, and issues in academic achievement.

Rules & Requirements
Grading Status: Letter grade.

Contact Information

School of Education
Visit Program Website (http://soe.unc.edu)

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DEPARTMENT OF ENGLISH AND COMPARATIVE LITERATURE (GRAD)

The English and comparative literature program offers a course of study leading to a doctor of philosophy degree, with potential specializations in a range of areas. We encourage our graduate students to discover a particular field, learn its histories, and define its problems. Through coursework, independent reading, and research, and with the support of an academic advisor, students develop a major field of study, as well as a focus of interest that often takes shape within or adjacent to the major field of study. See Programs for more information on these areas of study.

Admissions Requirements

Application for admission must be made by The Graduate School's electronic application process. These also serve as applications for fellowships and assistantships if the applicant marks the appropriate statement on the form.

Applicants for advanced degrees must have completed an undergraduate degree, customarily with a major in English, comparative literature, a foreign literature, area studies, or related field, at the time of enrollment. To be reviewed for admission by the department's graduate advisory committee, applications must be supported by Graduate Record Examination (GRE) scores, at least three letters of recommendation, and official transcripts showing courses, grades, and degrees awarded. A writing sample and a personal statement also should be submitted. Those students applying to the Ph.D. program who wish to focus on comparative literature should also submit (by email as an mp3 or mp4 file) a three- to five-minute recorded sample of the student reading a selection of text in his or her second language beyond English. This recorded sample should be sent to the attention of the graduate student services manager, whose email can be found on the department's web page.

Students who have already completed an M.A. degree in English, comparative literature, a foreign language literature, or comparative literature at another institution may petition the relevant director of graduate studies for a reduction of up to nine credits (three courses) from their UNC–Chapel Hill requirements. More information about the department can be obtained via its website (http://englishcomplit.unc.edu).

Fellowships and Assistantships

Financial support for graduate students is described in the Admissions and Financial Information section of the Graduate Catalog. All applicants to the Department of English and Comparative Literature are eligible to compete for University fellowships and assistantships. In addition, the department awards two types of assistantships–research assistantships and teaching fellowships. Neither is usually available in the summer. Research assistants are assigned to faculty members to help with research projects. Teaching fellows have full instructional responsibility for sections of beginning composition or, in the case of some comparative literature students, foreign language courses. Graduate students in the third year of the English Ph.D. program who also have taught at least four sections of composition become eligible for teaching literature courses. Non-native speakers are not considered for teaching fellowships until they have been enrolled in the Ph.D. program for at least a year. Teaching fellows earn an annual stipend; they are trained and supervised by the directors of composition and undergraduate studies, and they are subject to student and faculty evaluation.

Library and Research Facilities

The library system at the University of North Carolina at Chapel Hill is ranked among the top 20 research libraries in the United States. It has excellent holdings for the study of English philology and British and American literature, including the Southern Historical Collection (containing manuscripts, letters, and diaries) and the Hanes Collection of Incunabula. Through cooperative arrangements, university libraries in the Triangle area are open to graduate students from the University of North Carolina at Chapel Hill.

Ph.D. in English and Comparative Literature

The English and comparative literature program offers a course of study leading to a doctor of philosophy degree, with potential specializations in a range of areas. We encourage our graduate students to discover a particular field, learn its histories, and define its problems. Through coursework, independent reading, and research, and with the support of an academic advisor, students develop a major field of study, as well as a focus of interest that often takes shape within or adjacent to the major field of study. The student's organization of the field and focus should to be rigorous enough to situate the student within a discipline, tradition, or area, and supple enough to accommodate his or her specific interests, questions, and predilections. Subject to the approval of the academic advisor and the director of graduate studies, the field and focus will form the basis of the Ph.D. examination (written exams on each field and an oral exam on both thereafter). One's focus can be defined in many different ways. It can be characterized in terms of a genre, such as drama, lyric, the novel, film, literary criticism, or theory; or in terms of a particular period. For doctoral students focusing on English literature, suggested fields include:

- Medieval literature
- Renaissance literature
- 18th-Century British literature
- Romanticism
- Victorian literature
- 19th-Century American literature
- 20th-Century American literature
- Critical theory
- Digital humanities
- Medicine and literature
- Multi-ethnic American literature
- Cultural studies
- Rhetoric and composition
- Film studies, among many others

A partial list of well-recognized foci for both English and comparative literature includes

- Philosophy and literature
- History of science/medicine/technology/psychology
- Visual culture/art history (including photography, et al.)
- Cinema/film studies

- Sexuality studies/gender studies/queer theory
- Anthropology and literature
- Religion and literature
- Politics and/or social thought
- Theater/spectacle/performance theory
- Poetics/literary criticism
- Literary and/or cultural theory

For those concentrating on comparative literature, the focus will always cross linguistic boundaries from the student's primary into the secondary language(s) and will complement the broader, more diachronic coverage in the primary geo-cultural tradition.

Comparative literature at UNC–Chapel Hill boasts particularly strong resources in medieval and early modern literature, comparative romanticisms, visual culture and global cinema, and Romance language studies. Comparative literature draws together a number of core faculty and many more affiliated faculty from across the University and strives to balance a belief in the value of a shared critical language with the exigencies of working in particular national languages, locations, literatures, and media. The comparative literature field maps out a general field of study within a primary geo-cultural literary tradition and over a broad chronological period. The phrase "geo-cultural literary tradition" is intended to describe what in some cases might be called a national literature tradition, but clearly not in all cases. Students may choose from, but are not limited to, such fields as

- African and/or African Diaspora literatures
- American literatures–either United States or North American and/or Central American and/or South American
- Caribbean literatures (in French, English, Spanish, and other languages)
- Classical literatures
- East Asian literatures
- English/Irish/Scottish/Welsh/"British" literatures
- French and/or Francophone literatures
- Germanic literatures
- Italian literature
- Latin American literatures (Spanish or Spanish/Portuguese)
- Middle Eastern/Arabic/Islamic literatures
- Postcolonial literatures–New World (Canadian/Caribbean), or South Asian, or Pacific Rim, etc.
- Russian and/or Slavic literatures
- South Asian literatures
- Spanish/Iberian literatures

Examples of periods would include

- Classical (Greek, Roman, Late Antiquity/Early Christian)
- Medieval (or premodern Islam/Asian studies)
- Renaissance/Early Modern (usually up to 1700 in Northern Europe)
- Neoclassical/18th Century/Enlightenment/"Age of Empire"
- Early Transatlantic/Colonial Americas (roughly 1450–1750, or a portion thereof)
- Enlightenment/Romanticism (roughly 1750–1840)
- Nineteenth Century
- Modernism (late 19th and early-to-mid 20th Century)
- Contemporary (1945 to the present)

For the doctor of philosophy degree in English and comparative literature, students must fulfill the following course requirements: a pedagogy course and an introduction to graduate study. Students following a comparative literature track are also required to complete CMPL 841: History of Literary Criticism. In addition to coursework, a candidate for the Ph.D. must pass two written examinations and an oral defense of the examinations administered by the department, for which the student prepares by working closely with a faculty committee a year in advance. Doctoral candidates focusing on English literature must also demonstrate a reading knowledge of one foreign language. Doctoral candidates focusing on comparative literature must demonstrate expert-level proficiency in two foreign languages (one of which must be demonstrated at the time of application). The program culminates with the candidate writing a dissertation (and registering for at least three semester hours of ENGL 994) and successfully defending it in an oral examination. Students must also satisfy residence credit requirements set by The Graduate School. The department strongly recommends that candidates for the Ph.D. have supervised classroom teaching experience before receiving the degree. Such experience, when it can be offered, is considered as fulfilling a requirement for the degree.

M.A. in English with a Concentration in Literature, Medicine, and Culture

The M.A. in English's concentration in literature, medicine, and culture (http://hhive.unc.edu/litmedcult/) works closely with the Department of Anthropology (https://anthropology.unc.edu/graduate/) and the Department of Social Medicine (http://www.med.unc.edu/socialmed/). Students enrolled in the concentration are expected to participate in interdisciplinary coursework and research projects with faculty from across the University. Faculty in the literature, medicine, and culture concentration come from over a dozen departments across the University, as well as the Honors Program (http://honorscarolina.unc.edu/current-students/curriculum/interdisciplinary-minor-in-medicine-literature-and-culture/), which also offers an interdisciplinary undergraduate minor in the field. Among the many distinctions of the University of North Carolina at Chapel Hill is its School of Medicine (http://www.med.unc.edu/), ranked second in primary care by U.S. News & World Report. With its hospital and allied schools of Nursing (http://nursing.unc.edu/) and Social Work (http://ssw.unc.edu/), the school stands only a few minutes' walk from the College of Arts and Sciences, where over a dozen departments rank among the top 25 nationally in their fields. Students benefit from close proximity between top-ranked programs in the healthcare and the liberal arts.

Professors

Daniel R. Anderson, Rhetoric, Composition, and Literacy
David J. Baker, Renaissance, Drama, Renaissance Studies
A. Reid Barbour, Renaissance, Renaissance Studies
Marsha Collins, Modern Peninsular Literature, Golden Age Spanish Literature
María DeGuzmán, Latino/Latina Studies, 20th-Century American, Critical Theory
Florence Dore, 20th-Century American, Southern Literature, Post-1945 Literature
Eric Downing, Literary Theory, Comparative Literature, Aesthetics
Mary Floyd-Wilson, Renaissance, Drama, Renaissance Studies

Philip Gura, American, American Studies
Jordynn Jack, Rhetoric and Composition
Heidi Kim, 20th-Century American, Asian American Literature
Laurie Langbauer, 19th-Century British, Critical Theory
Michael A. McFee, Creative Writing
Jeanne Moskal, 19th-Century British, Critical Theory, Women's Studies
Eliza Richards, American Literature
Bland Simpson, Creative Writing
Jane Thrailkill, American, 20th-Century American
Joseph S. Viscomi, 19th-Century British
Daniel Wallace, Creative Writing
Jessica Wolfe, Renaissance, Renaissance Studies

Associate Professors

Inger S.B. Brodey, 18th- and 19th-Century British Novel, Comparative Literature, Philosophy
Gabrielle Calvocaressi, Creative Writing, Poetry
Danielle Christmas, African American Literature, 20th-Century American
Pamela Cooper, 20th-Century British, Cultural Studies, Novel, Women's Studies
Tyler Curtain, Critical Theory, Cultural Studies, Novel
Stephanie Elizondo Griest, Creative Writing, Creative Nonfiction
Candace Epps-Robertson, Rhetoric and Composition
Gregory Flaxman, Film Studies, 20th-Century British, Critical Theory, Cultural Studies
Ylce Irizarry, Latino/Latina Studies
Martin Johnson, Film Studies
Meta DuEwa Jones, African American Literature, 20th Century American Literature, Poetry
Shayne Legassie, Medieval, Medieval Studies, Comparative Literature
Theodore H. Leinbaugh, Medieval, Medieval Studies, Comparative Literature
Inga Pollmann, Film, Global Cinema Studies
Rebecka Rutledge Fisher, African American, American, Black Intellectual Thought, Critical Theory
Kim Stern, 19th-Century British
Matthew Taylor, American Literature, Cultural Studies, Theory and Criticism
Rick Warner, Film, Global Cinema Studies

Assistant Professors

Gabriel Bump, Creative Writing
Taylor Cowdery, Late Medieval Literature, Early Modern Poetry, Medieval Studies
H.M. Cushman, Late Medieval Literature, Medieval Studies
Tyree Daye, Creative Writing
Stephanie DeGooyer, Transatlantic 19th Century Literature, Law and Literature

Professors Emeriti

William L. Andrews
Christopher M. Armitage
Laurence G. Avery
James W. Coleman
Alan C. Dessen
Jane M. Danielewicz
Pam Durban
Connie Eble
Joseph Flora
Joy Kasson
Johnny Lee Greene
Minrose Gwin
William Harmon
Trudier Harris
Howard M. Harper Jr.
Mae Henderson
Fred Hobson
Randall Kenan
Ritchie D. Kendall
Edward Donald Kennedy
J. Kimball King
George S. Lensing Jr.
Allan R. Life
Erika C. Lindemann
C. Townsend Ludington Jr.
Megan Matchinske
John P. McGowan
Margaret A. O'Connor
Daniel W. Patterson
Julius R. Raper III
Thomas Reinert
Richard D. Rust
Ruth Salvaggio
James Seay
Thomas A. Stumpf
Beverly Taylor
Weldon E. Thornton
Linda Wagner-Martin
David Whisnant
Joseph S. Wittig
Charles G. Zug III

Comparative Literature Faculty

Professors

Marsha S. Collins, Modern Peninsular Literature, Golden Age Spanish Literature
Eric S. Downing, 18th- and 19th-Century Literature, Literary Theory, Classics
Clayton Koelb, Modern Literature, Literary Theory, Philosophy and Aesthetics, Comparative Literature
Jessica Wolfe, Comparative Renaissance Literature, Classical Reception

Associate Professors

Inger S.B. Brodey, Prose Fiction in Late 18th- and Early 19th-Century Europe and Meiji Japan
Gregory Flaxman, Film Studies, Critical Theory
Shayne Legassie, Medieval, Medieval Studies, Comparative Literature
Rick Warner, Global Cinema Studies

Adjunct and Affiliate Professors (All Ranks)

Sharon James, Professor, Department of Classics
Janice H. Koelb, Adjunct Assistant Professor, Department of English and Comparative Literature, British Romanticism, Poetry and Poetics
Hassan Melehy, Professor, Department of Romance Studies, French
Inga Pollman, Associate Professor, Department of Germanic Languages and Literatures, German, Cinema Studies
Alicia Rivero, Associate Professor, Department of Romance Studies, Contemporary Spanish American Literature, Modern Critical Theory, Gender Issues, Literature and Science, Intellectual History
Yaron Shemer, Associate Professor, Department of Asian Studies, Israeli and Middle Eastern Cinema

Michael Silk, Professor, King's College London, Classics
Robin Visser, Associate Professor, Department of Asian Studies, Chinese Literature and Culture

Professors Emeriti

Dino Cervigni
Edward D. Kennedy
George A. Kennedy
Diane Leonard
James Peacock
William Race
Philip A. Stadter

ENGL

Advanced Undergraduate and Graduate-level Courses

ENGL 400. Advanced Composition for Teachers. 3 Credits.
This course combines frequent writing practice with discussions of rhetorical theories and strategies for teaching writing. The course examines ways to design effective writing courses, assignments, and instructional materials.

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING.
Grading Status: Letter grade.

ENGL 402. Investigations in Academic Writing and Writing Centers. 3 Credits.
This course considers learning to write from three vantage points: personal, social, and contextual. Emphasis on theory, reflective practice, and pedagogy for peer tutoring.

Rules & Requirements

IDEAs in Action Gen Ed: HI-GENERAL.
Grading Status: Letter grade.

ENGL 403. Rhetoric in the Museum. 3 Credits.
A course focused on research, writing, and engagement with museum exhibits focused on art or other collections. Students will practice rhetorical analysis and close looking with a special focus on works at a curated museum installation. Includes collaborative and individual research projects. Honors version available.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH.
Grading Status: Letter grade.

ENGL 404. Advanced Creative Nonfiction. 3 Credits.
In addition to surveying key works of creative nonfiction throughout the ages - from Montaigne in the 16th century to Solnit, Rankine, and Urrea in the 21st - we will be composing (and peer-reviewing) our own explorations of every subgenre, including memoir, literary journalism, travel writing, flash nonfiction, and the lyric essay, with an eye toward publication.

Rules & Requirements

IDEAs in Action Gen Ed: FC-CREATE.
Requisites: Prerequisite, ENGL 203, 204, or 208; permission of the instructor or director for students lacking a prerequisite.
Grading Status: Letter grade.

ENGL 406. Advanced Fiction Writing. 3 Credits.
A continuation of the intermediate workshop with emphasis on the short story and novella. Extensive discussion of student work and revisions in class and in conferences with instructor. Permission of the program director.

Rules & Requirements

IDEAs in Action Gen Ed: FC-CREATE.
Requisites: Prerequisite, ENGL 206, ENGL 210, ENGL 211, ENGL 212, or ENGL 214.
Grading Status: Letter grade.

ENGL 407. Advanced Poetry Writing. 3 Credits.
Permission of the program director. A continuation of the intermediate workshop, with increased writing and revising of poems. Extensive discussion of student poetry in class and in conferences with instructor.

Rules & Requirements

IDEAs in Action Gen Ed: FC-CREATE.
Requisites: Prerequisite, ENGL 207.
Grading Status: Letter grade.

ENGL 408. Collaboration: Composers and Lyricists. 3 Credits.
This is a course in popular-songwriting collaboration, a workshop with constant presentation of original songs and close-critiquing of these assignments. Varied assignments including songs for soloists, duos, trios, quartets, and chorus; ballads, folk, jazz, blues, art, and musical-theater songs, etc.

Rules & Requirements

IDEAs in Action Gen Ed: FC-CREATE, COMMBEYOND.
Grading Status: Letter grade.

ENGL 409. Lyrics and Lyricists: A Collaborative Exploration of the Processes of Popular-Song Lyric Writing. 3 Credits.
This course is a collaborative exploration of popular-song lyric writing, requiring numerous drafts written to varied existing musical models - narrative ballads; hymns; folk, theater, jazz, art, R&B, R&R, and worldbeat songs, etcetera - to be tried out and worked on in class, as well as in conference.

Rules & Requirements

IDEAs in Action Gen Ed: FC-CREATE.
Grading Status: Letter grade.

ENGL 410. Documentary Film. 3 Credits.
This course provides a history of documentary cinema since the beginnings of the medium and surveys different modes and theoretical definitions; or the course may focus largely on a certain mode (such as ethnographic, observational, first-person, cinema vérité, politically activist, found footage compilation, or journalistic investigation). Honors version available.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-KNOWING.
Grading Status: Letter grade.

ENGL 411. Composing for Clients: Technical Communication Practicum. 3 Credits.
This advanced technical communication course will help you develop skills in developing professional communication with a focus on developing written and oral communications for clients, user experience, project management, and technical editing. You will assess the communications needs for a client, develop a communication plan to fulfill that need, and then produce polished, professional deliverables for that client, including oral communication. You will also practice presenting communication plans and final documents orally to clients.

Rules & Requirements

IDEAs in Action Gen Ed: FC-CREATE, COMMBEYOND.
Grading Status: Letter grade.

ENGL 412. Sketch Comedy Writing. 4 Credits.
This course provides a rigorous introduction to comedy arts, focusing on the individual and collaborative writing processes of sketch comedy. Students will learn to develop characters, settings, and tension using the tools preferred by contemporary performers, including the game of the scene, absurdity and incongruity, status, active patterning, and parody. This intensive experience culminates in student-written, live sketch comedy performances.

Rules & Requirements

IDEAs in Action Gen Ed: FC-CREATE, HI-PERFORM, COMMBEYOND.
Requisites: Prerequisite, ENGL 259 or 308; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

ENGL 425. Literature, Archives, and Original Research. 3 Credits.
"Archives" are documents - manuscripts, photographs, recordings, diaries, letters, and other materials - that are so valuable they need to be preserved in a special place. In this course, the instructor will guide students as they conduct original research in literary archives, such as online databases or physical archives (at Wilson Library, for example). We will learn how to formulate research questions and how to identify key documents. Previously offered as ENGL 342.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH, RESEARCH.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

ENGL 430. Renaissance Literature--Contemporary Issues. 3 Credits.
This course examines Renaissance literature through the lens of cultural themes, issues, and problems that were important to Renaissance authors and readers. Texts may be drawn from, among others, the English, French, German, Italian, and Spanish literary traditions, and may range in date from the 15th to the 17th centuries.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

ENGL 437. Chief British Romantic Writers. 3 Credits.
Survey of works by Blake, Wordsworth, Coleridge, Byron, Percy and Mary Shelley, Keats, and others. Honors version available.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH.
Grading Status: Letter grade.

ENGL 443. American Literature before 1860--Contemporary Issues. 3 Credits.
A junior- or senior-level course devoted to in-depth exploration of an author, group of authors, or topic in American literature to 1860. Honors version available.

Rules & Requirements

IDEAs in Action Gen Ed: FC-PAST.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

ENGL 444. American Literature, 1860-1900--Contemporary Issues. 3 Credits.
Intensive study of one or more authors or a topic in American literature from the Civil War through 1900. Honors version available.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-KNOWING.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

ENGL 445. American Literature, 1900-2000--Contemporary Issues. 3 Credits.
A junior- or senior-level course devoted to in-depth exploration of an author, group of authors, or a topic in American literature from 1900 to 2000. Honors version available.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

ENGL 446. American Women Authors. 3 Credits.
American women authors from the beginnings to the present. Honors version available.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH.
Grading Status: Letter grade.
Same as: WGST 446.

ENGL 447. Memory and Literature. 3 Credits.
This course brings together theories of collective and individual memory with questions of aesthetics and narrative while exploring global connections between memory and literature.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-KNOWING.
Grading Status: Letter grade.

ENGL 464. Latinx Hybrid Narrative: Experimental Fiction and Film. 3 Credits.
Latinx narrative in fiction and film has continually challenged the form and function of "genre". This course will examine books, films, and videos that are narrative in nature. We will focus on cultural productions reflecting some of these innovations to consider how authors and film makers engage concerns intersecting at different points of self-conception, including but not limited to experiences of dis/ability, diaspora, gender, geography, race, nationality, sexuality, spirituality, and transnationalism.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-GLOBAL.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

ENGL 466. Literary Theory--Contemporary Issues. 3 Credits.
Examines current issues in literary theory such as the question of authorship, the relation of literary texts to cultural beliefs and values, and to the formation of identities. Honors version available.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-KNOWING.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

ENGL 467. Educating Latinas/os: Preparing SLI Mentors. 3 Credits.
Permission of the instructor. Designed for students accepted as mentors to the Scholars' Latino Initiative (SLI). Students will take this course during their first year as SLI mentors to prepare them as effective mentors to Latina/o high school students. Students cannot receive credit for both ENGL 267 and 467.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-POWER.
Grading Status: Letter grade.

ENGL 472. African American Literature--Contemporary Issues. 3 Credits.
Study of particular aspects of African American literature, such as the work of a major writer or group of writers, an important theme, a key tradition, or a literary period. Honors version available.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

ENGL 473. The Changing Coasts of Carolina. 3 Credits.
A rigorous combination of field work, lab work, and colorful, original contemporary writing on the natural world will help tell the story of our many, evolving North Carolina coasts. Combining marine science and the creative literary arts, this immersive course will explore issues of change over many eras. This combination of social, cultural, and scientific observation will lead to imaginatively constructed, well-written non-fiction reportage about one of North America's most productive, compelling, and challenging regions.

Rules & Requirements

IDEAs in Action Gen Ed: HI-GENERAL, COMMBEYOND.
Grading Status: Letter grade.
Same as: EMES 473.

ENGL 475. Southern Literature--Contemporary Issues. 3 Credits.
The study of a particular topic or genre in the literature of the United States South, more focused than students will find in ENGL 373.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

ENGL 480. Digital Humanities History and Methods. 3 Credits.
Students will explore the history of computer-assisted humanities scholarship, from its beginnings in computational linguistics, media studies, and humanities computing to its current incarnation as "digital humanities." The course will provide an introduction to the field and to digital research methodologies and prepare students to develop their own digital projects. Previously offered as ENGL 530.

Rules & Requirements
Grading Status: Letter grade.

ENGL 482. Metadata, Mark-up, and Mapping: Understanding the Rhetoric of Digital Humanities. 3 Credits.
This Course-based Undergraduate Research Experience (CURE) course interrogates the rhetoric of data construction and management by positioning students as "critical makers" in a digital humanities project. Previously offered as ENGL 353.

Rules & Requirements

IDEAs in Action Gen Ed: FC-QUANT, RESEARCH.
Grading Status: Letter grade.

ENGL 483. Critical Theory of Games. 3 Credits.
A research-based course in which students are introduced to recent developments in the field of critical theory of games, and how thinkers in the public humanities draw on games to ask and answer questions in theoretical realms such as narrative, agency, language, identity, rhetoric, and economics. The course will culminate in a capstone digital humanities project in which students share their original research as a podcast. No gaming experience or equipment is needed.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Requisites: Prerequisite, ENGL 113.
Grading Status: Letter grade.

ENGL 487. Everyday Stories: Personal Narrative and Legend. 3 Credits.
Oral storytelling may seem old-fashioned, but we tell true (or possibly true) stories every day. We will study personal narratives (about our own experiences) and legends (about improbable, intriguing events), exploring the techniques and structures that make them effective communication tools and the influence of different contexts and audiences.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-KNOWING.
Grading Status: Letter grade.
Same as: FOLK 487.

ENGL 488. Critical Security Studies. 3 Credits.
Introduces major topics in the interdisciplinary field of critical security studies. Critically analyzing the public construction of risk and security in military, technological, informational, and environmental domains, the course explores major theories that attempt to make sense of the transnational proliferation of violence and risk in historical and contemporary contexts.

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING or FC-VALUES.
Grading Status: Letter grade.
Same as: PWAD 484.

ENGL 489. Science, Medicine, and Cultural Studies--Contemporary Issues. 3 Credits.
The student will have an opportunity to concentrate on researching topics and texts central to the study of health, medicine, culture, and ethics. Central topics may include representations of genetics, cloning, reproduction, and biotechnology. Honors version available.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

ENGL 490. Creative Writing: Special Topics. 3 Credits.
Permission of the program director. An occasional advanced course, which may focus on such topics as advanced creative nonfiction, editing and publishing, the lyric in song and collaboration between lyricists and composers, the one-act play, and short-short fiction.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

ENGL 494. Research Methods in Film Studies. 3 Credits.
This course introduces students to research methods in film studies. While this course will provide a broad survey of methods one might employ in film studies research of all kinds, the course may be restricted to a particular research topic.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-KNOWING, RESEARCH.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

ENGL 495. Mentored Research. 1-3 Credits.
Recommended for students in junior or senior year of study. Intensive mentored research, service learning, field work, or creative work. Requires 30 hours of research, writing, or experiential activities, culminating in a written project.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Repeat Rules: May be repeated for credit. 6 total credits. 6 total completions.
Grading Status: Letter grade.

ENGL 564. Interdisciplinary Approaches to Literature. 3 Credits.
Examines the ways knowledge from other disciplines can be brought to bear in the analysis of literary works. Questions of disciplinary limits and histories will also be addressed.

Rules & Requirements
Grading Status: Letter grade.

ENGL 583. Drama on Location. 3 Credits.
Offered as part of summer study abroad programs in Oxford, London, and Stratford-on-Avon. Students experience plays in performance and as texts, and discuss their literary, dramatic, cultural, and historical aspects. Honors version available.

Rules & Requirements
Grading Status: Letter grade.

ENGL 593. Internship in Health Humanities. 3 Credits.
An opportunity to gain credit for an internship in a field related to the study of health humanities, such as science writing, health non-profit work, and qualitative research. Available to majors with at least a 3.0 GPA. Requirements include regular journal entries, meetings with a faculty advisor, and a final report of 10-15 pages.

Rules & Requirements

IDEAs in Action Gen Ed: HI-INTERN.
Requisites: Prerequisites, Graduate students are required to take ENGL 695 or ENGL 763 (this may be done concurrently with ENGL 696); Undergraduates are required to take ENGL 268 or an equivalent course, plus at least 1 additional upper-division ENGL course and obtain instructor permission.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

ENGL 610. Practicum in Health Humanities. 3 Credits.
This course introduces advanced undergraduate and graduate students to topics, methods, and concepts in health humanities through practical learning experiences.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-KNOWING, COMMBEYOND.
Requisites: Pre- or corequisite, ENGL 268.
Grading Status: Letter grade.

ENGL 611. Narrative, Literature, and Medicine: Advanced Interdisciplinary Seminar. 3 Credits.
Sociologist Arthur Frank asserts that "whether ill people want to tell stories or not, illness calls for stories." This seminar explores narrative approaches to suffering, healing, and medicine's roles in these processes. Students learn literary and anthropological approaches to examine medically themed works from a range of genres.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-KNOWING, COMMBEYOND.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

ENGL 619. Survey of Old and Middle English Literature. 3 Credits.
An introduction to English literature from the eighth to the 15th century, focusing on the primary works of Old English and Middle English literature.

Rules & Requirements
Grading Status: Letter grade.

ENGL 620. Introduction to Old English Language and Literature. 3 Credits.
Students will learn to read Old English, the Germanic language spoken by the Anglo-Saxons in Britain from about the middle of the fifth century until the time of the Norman Conquest. Students will study Beowulf, "Caedmon's Hymn", and other selections in poetry and prose.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-PAST.
Grading Status: Letter grade.

ENGL 621. Arthurian Romance. 3 Credits.
British and continental Arthurian literature in translation from the early Middle Ages to Sir Thomas Malory.

Rules & Requirements
Grading Status: Letter grade.
Same as: CMPL 621.

ENGL 630. Shakespeare and His Contemporaries. 3 Credits.
This course will examine drama written and performed in England from 1570 to 1640, situating Shakespeare's plays in relation to others in his generation.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH.
Grading Status: Letter grade.

ENGL 638. 19th-Century Women Writers. 3 Credits.
An investigation of important texts by 19th-century women writers that considers issues of gender in relation to other important considerations--tradition, form, culture--with an introduction to the chief scholarly and critical problems of this period.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-POWER.
Grading Status: Letter grade.

ENGL 659. War in 20th-Century Literature. 3 Credits.
A study of literary works written in English concerning World War I, or the Spanish Civil War and World War II, or the Vietnam War. Honors version available.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH.
Grading Status: Letter grade.
Same as: PWAD 659.

ENGL 660. War in Shakespeare's Plays. 3 Credits.
The focus is on Shakespeare's various treatments of war in his plays: all his Roman histories, most of his English histories, all his tragedies, even some of his comedies.

Rules & Requirements
Grading Status: Letter grade.
Same as: PWAD 660.

ENGL 661. Introduction to Literary Theory. 3 Credits.
Examines contemporary theoretical issues and critical approaches relevant to the study of literature.

Rules & Requirements
Grading Status: Letter grade.

ENGL 662. History of Literary Criticism. 3 Credits.
A history of literary criticism from the Greeks to mid-20th century, focusing on recurrent concerns and classic texts that are indispensable for understanding the practice of literary criticism today.

Rules & Requirements
Grading Status: Letter grade.

ENGL 665. Queer Latina/o Literature, Performance, and Visual Art. 3 Credits.
This course explores literature, performance art, film, and photography by Latinas and Latinos whose works may be described as "queer" and that question terms and norms of cultural dominance.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-POWER.
Grading Status: Letter grade.
Same as: WGST 665.

ENGL 666. Queer Latina/o Photography and Literature. 3 Credits.
This course explores Latina/o literature about photography in relation to photography by "queer" Latina/o artists and, through this double focus, poses certain questions about identity, subjectivity, and culture.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-POWER.
Grading Status: Letter grade.
Same as: WGST 666.

ENGL 667. Marx and Marxist Theory. 3 Credits.
This mixed graduate and undergraduate course introduces students to the basic elements of the thought of Karl Marx and the reception and transformation of these elements in later philosophies and theories of culture. In addition to the work of Marx, students may expect to read work by such thinkers as G. W. F. Hegel, W. E. B. DuBois, Rosa Luxembourg, Antonio Gramsci, Fredric Jameson, Sylvia Federici, Michel Foucault, C. L. R. James, and others.

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING or FC-POWER.
Grading Status: Letter grade.

ENGL 668. Debates in Contemporary Theory. 3 Credits.
This mixed graduate and undergraduate course selectively surveys recent contemporary theory by asking how certain debates, controversies, or conversations have shaped the terrain of literary and cultural studies in the present day. Though the particular topic of the course will vary, select iterations may involve the diachronic study of influence; the apposition of different methodological approaches; or the survey of recent work in a given area, such as affect theory or postcolonial studies.

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING.
Grading Status: Letter grade.

ENGL 670. Being and Race in African American Literature. 3 Credits.
An examination of phenomenology, the "philosophy of experience." Taking the perspective that literature helps clarify our experience, we will engage in readings of various genres--poetry, autobiography, fiction, and drama--as we examine how literature not only records experience, but also shapes it through a distinct method of reasoning.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH.
Grading Status: Letter grade.

ENGL 674. Digital Literature. 3 Credits.
Digital literature explores how literary works are composed for, shaped by, and studied in electronic environments. Course texts range from books to electronic fiction and poetry to video games. Hands-on activities give students a chance to develop their own literary projects--either as electronic literary works or as digital scholarship.

Rules & Requirements
Grading Status: Letter grade.

ENGL 675. Teaching Online. 3 Credits.
This course explores issues and methodologies related to online teaching. Topics include instructor-student dynamics in the online classroom, opportunities for extending the classroom through online platforms, trends in online pedagogy, and development of online teaching portfolios.

Rules & Requirements
Grading Status: Letter grade.

ENGL 676. Digital Editing and Curation. 3 Credits.
Students will investigate theories and practices of editing in multimedia, digital environments. Students will explore histories of textual editing, research major humanities projects, examine trends and toolsets related to developing scholarly digital materials, and collaborate with one another and with campus entities to develop an online digital humanities project.

Rules & Requirements

IDEAs in Action Gen Ed: FC-CREATE.
Grading Status: Letter grade.

ENGL 680. Film Theory. 3 Credits.
This course provides a rigorous introduction to various theories (aesthetic, narrative, historical, political, psychological, philosophical) inspired by cinema.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-KNOWING.
Grading Status: Letter grade.

ENGL 681. Topics in Contemporary Film and Media. 3 Credits.
This course examines aesthetic and social aspects of contemporary cinema, television, and/or other media. Previously offered as ENGL 580. Honors version available.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

ENGL 685. Literature of the Americas. 3 Credits.
Multidisciplinary examination of texts and other media of the Americas, in English and Spanish, from a variety of genres. Two years of college-level Spanish or the equivalent recommended but not required.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-POWER.
Grading Status: Letter grade.
Same as: CMPL 685.

ENGL 687. Queer LatinX Environmentalisms. 3 Credits.
This mixed level undergraduate and graduate student course examines queer LatinX literature from the 1970s to the present as it intersects with ecological and environmental concerns. We pay close attention to LatinX cultural productions that approach ecology and environmental justice from queer perspectives and that queer ecological concerns from minoritized perspectives.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-POWER.
Grading Status: Letter grade.

ENGL 690. Special Topics. 3 Credits.
Selected topics in literary studies, composition, digital media, and related fields. Topic varies by semester.

Rules & Requirements
Repeat Rules: May be repeated for credit. 9 total credits. 3 total completions.
Grading Status: Letter grade.

ENGL 691H. English Senior Honors Thesis, Part I. 3 Credits.
Restricted to senior honors candidates. First semester of senior honors thesis. Independent research under the direction of an English department faculty member.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

ENGL 692H. English Senior Honors Thesis, Part II. 3 Credits.
Restricted to senior honors candidates. Second semester of senior honors thesis. Essay preparation under the direction of an English department faculty member.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

ENGL 693H. Creative Writing Senior Honors Thesis, Part I. 3 Credits.
Restricted to senior honors candidates. The first half of a two-semester seminar. Each student begins a book of fiction or creative nonfiction (25,000 words) or poetry (1,000 lines). Extensive discussion of student work in class and in conferences.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Requisites: Prerequisites, ENGL 130, 131, 132H, 133H, or 138; and ENGL 206, 207, or 208; and ENGL 404, 406, 407.
Grading Status: Letter grade.

ENGL 694H. Creative Writing Senior Honors Thesis, Part II. 3 Credits.
Restricted to senior honors candidates. The second half of a two-semester seminar. Each student completes a book of fiction, creative nonfiction, or poetry. Extensive discussion of student work in class and in conferences with instructor.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Requisites: Prerequisite, ENGL 693H.
Grading Status: Letter grade.

ENGL 695. Research Seminar. 3 Credits.
Guides students through the processes of developing an original research topic, conducting research, and analyzing research, leading students to produce a high-quality presentation of their findings. Topic varies by instructor but may focus on literary studies or closely-related arenas such as medical humanities, digital humanities, and creative writing, among others.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 9 total credits. 3 total completions.
Grading Status: Letter grade.

Graduate-level Courses

ENGL 701. Introduction to Medieval Studies. 3 Credits.
Introduction to medieval studies for graduate students in any department. Intended to expose students to research problems, tools, and techniques in fields other than their own.

Rules & Requirements
Grading Status: Letter grade.

ENGL 706. Rhetorical Theory and Practice. 3 Credits.
A study of rhetorical theories and practices from classical to modern times. Emphasis is on translation of theories into instructional practice for teaching in the college writing classroom.

Rules & Requirements
Grading Status: Letter grade.

ENGL 709. Technologies of Literary Production. 3 Credits.
This course introduces the history of technologies used to produce and circulate literature, from medieval Europe to the twenty-first-century. Proceeding chronologically, this history provides a broad overview of the material conditions of possibility for the emergence of literary form and genre in the Anglophone tradition.

Rules & Requirements
Grading Status: Letter grade.

ENGL 710. Introduction to Digital Humanities. 3 Credits.
This course provides students with an introduction to the landscape of digital humanities history, theories, tools, and methods with a focus on humanities data. We will explore the affordances and constraints of approaches to humanities data in archives and metadata, text analysis, data visualization, mapping, and game studies. Within each of these areas, students will assess leading theories and learn hands-on tools and methods in order to create a digital humanities seminar paper on a topic of their choosing.

Rules & Requirements
Grading Status: Letter grade.

ENGL 719. Old English Grammar and Readings. 3 Credits.
An introduction to Old English language and literature that also attempts to relate that language to Modern English and to the larger context of the history of the English language.

Rules & Requirements
Grading Status: Letter grade.

ENGL 720. Old English Poetry. 3 Credits.
Required preparation, a working knowledge of Old English. The translation and interpretation of Old English poetry including works such as The Wanderer, The Seafarer, Deor, The Dream of the Rood, and Beowulf.

Rules & Requirements
Grading Status: Letter grade.

ENGL 723. Later Middle English Literature. 3 Credits.
English literature of the late 14th and 15th centuries, including Gower, the English and Scottish Chaucerians, and Sir Thomas Malory.

Rules & Requirements
Grading Status: Letter grade.

ENGL 724. Chaucer. 3 Credits.
A study of Chaucer's major poetry, including Troilus and Criseyde, at least some of the 'dream' poems such as Parliament of Fowls, and most of The Canterbury Tales.

Rules & Requirements
Grading Status: Letter grade.

ENGL 747. Studies in the American Novel. 3 Credits.
A wide-ranging, graduate-level survey of the American novel from the late 18th century through the 20th century.

Rules & Requirements
Grading Status: Letter grade.

ENGL 748. Studies in American Poetry. 3 Credits.
A wide-ranging, graduate-level survey of American poetry from the late 18th century through the 20th century.

Rules & Requirements
Grading Status: Letter grade.

ENGL 762. Special Topics in Cultural Studies. 3 Credits.
An introduction to myriad texts, topics, controversies, institutions, and personalities that make up the ongoing knowledge projects that are loosely affiliated under the rubric "cultural studies."

Rules & Requirements
Grading Status: Letter grade.

ENGL 763. Introduction to Methods in Health Humanities. 3 Credits.
Permission of the Instructor. This course introduces students to topics and methods in health and humanities. Students will read classics in the field, engage texts from different disciplines and genres, and conduct intensive research into a condition or disability of their choosing.

Rules & Requirements
Grading Status: Letter grade.

ENGL 764. Medicine Without Borders. 3 Credits.
This course examines texts by medical professionals who practice in perilous venues, as well as their sponsoring institutions (Christian missions, the Red Cross, and Doctors Without Borders), investigating the texts' representational strategies and the historical and ethical settings of both texts and institutions.

Rules & Requirements
Grading Status: Letter grade.

ENGL 776. Old Irish I. 3 Credits.
The main emphasis of the course will be on mastering the basic grammar of the language. There will be some readings from selected Old Irish glosses and from Aislinge Oenguso.

Rules & Requirements
Grading Status: Letter grade.

ENGL 777. Old Irish II. 3 Credits.
Readings from a variety of genres of Old Irish literature: Stories from the Tain, Crith Gablach, Cambrai Homily, Early Irish Lyrics, Scela Mucce Meic Datho.

Rules & Requirements
Requisites: Prerequisite, ENGL 776.
Grading Status: Letter grade.

ENGL 781. Proseminar in British Literature, 1500-1660. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.

ENGL 783. Proseminar in British Literature, 1770-1870. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.

ENGL 784. Proseminar in American Literature, Prior to the Civil War. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.

ENGL 785. Proseminar in Literature after 1870. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.

ENGL 786. Introduction to Graduate Study in English and Comparative Literature. 3 Credits.
This course introduces students to the field of literary studies in English and comparative literature. Students will survey a range of approaches, methods, and controversies that have emerged from the field. The focus on critical and institutional histories will provide a foundation for graduate work and for developing professional objectives.

Rules & Requirements
Grading Status: Letter grade.

ENGL 801. Research Methods in Composition and Rhetoric. 3 Credits.
Course introduces graduate students to methodologies of research in the field of Rhetoric and Composition. Emphasis is on theoretical and practical concerns that improve teaching and help develop research agendas.

Rules & Requirements
Grading Status: Letter grade.

ENGL 805. Studies in Rhetoric and Composition. 3 Credits.
Focus varies by semester, but generally investigates intersections of literacy, pedagogy, and rhetorical theory. Courses range from explorations of technology and literacy, to investigations of forms of writing and pedagogy.

Rules & Requirements
Grading Status: Letter grade.

ENGL 814. History of the English Language. 3 Credits.
Study of English from its Proto-Indo-European origins through the 18th century focusing on historic events and the major changes to the structure and usage of English they occasioned.

Rules & Requirements
Grading Status: Letter grade.
Same as: LING 814.

ENGL 819. Seminar in Old English Language and Literature. 3 Credits.
Topics in Old English poetry and prose that vary with each seminar and instructor.

Rules & Requirements
Grading Status: Letter grade.

ENGL 821. Seminar in Middle English Literature. 3 Credits.
Intensive study of major Middle English authors or genres or of medieval cultural influences. Topics have included Malory, Piers Plowman and its tradition, drama, and intellectual backgrounds of medieval literature.

Rules & Requirements
Grading Status: Letter grade.

ENGL 825. Renaissance Literature in Context. 3 Credits.
A study of select works of Renaissance literature, both dramatic and nondramatic, in its intellectual, social, political, or religious context.

Rules & Requirements
Grading Status: Letter grade.

ENGL 827. Studies in Renaissance Authors. 3 Credits.
Concentrated studies of single authors, groups of authors thematically linked, or authors in their families or coteries.

Rules & Requirements
Grading Status: Letter grade.

ENGL 828. Perspectives on Renaissance Literature and Culture. 3 Credits.
Students will study Renaissance literature while assessing the usefulness and status of a theoretical approach, such as feminist theory, queer theory, cultural materialism, new historicism, or psychoanalytic theory.

Rules & Requirements
Grading Status: Letter grade.

ENGL 829. Studies in Renaissance Literature: Drama. 3 Credits.
A study of Renaissance drama linked thematically, or framed by select cultural practices and historical issues.

Rules & Requirements
Grading Status: Letter grade.

ENGL 830. Studies in Renaissance Literature: Primarily Nondramatic. 3 Credits.
A focused examination of an aesthetic, historical, or theoretical problem in the study of Renaissance literature.

Rules & Requirements
Grading Status: Letter grade.

ENGL 831. Seminar in 18th-Century Literature. 3 Credits.
Selected topics in 18th-century literature.

Rules & Requirements
Grading Status: Letter grade.

ENGL 835. 18th-Century Fiction. 3 Credits.
Studies in eighteenth-century fiction from Behn to Austen.

Rules & Requirements
Grading Status: Letter grade.

ENGL 837. Studies in English Literature, 1780-1832. 3 Credits.
Sections: 1) Blake, Wordsworth, Coleridge, 2) Byron, Shelley, Keats. Examination of the major Romantic poets, supplemented by readings in other Romantic authors.

Rules & Requirements
Grading Status: Letter grade.

ENGL 838. 19th-Century British Novel. 3 Credits.
Examination of important 19th-century British novels, such as those by Austen, Scott, Dickens, the Brontes, sensation novelists, Gaskell, Carroll, Thackeray, Eliot, Trollope, Doyle, Hardy, Meredith.

Rules & Requirements
Grading Status: Letter grade.

ENGL 840. Studies in Victorian Literature: Poetry. 3 Credits.
Study of Victorian poets, focused on a group or a topic, including figures such as Tennyson, the Brownings, Arnold, and the Pre-Raphaelites.

Rules & Requirements
Grading Status: Letter grade.

ENGL 841. Seminar in 19th-Century Romanticism in England. 3 Credits.
Topics concerning major authors and issues of the Romantic period.

Rules & Requirements
Grading Status: Letter grade.

ENGL 842. Seminar in Victorian Literature. 3 Credits.
Topics concerning major authors and issues of the Victorian period.

Rules & Requirements
Grading Status: Letter grade.

ENGL 843. Seminar in American Literature to 1860. 3 Credits.
Topics vary: e.g., New England Puritanism, New England response to American literary nationalism; Emerson; Irving, Hawthorne, and Poe and the development of the American short story.

Rules & Requirements
Grading Status: Letter grade.

ENGL 844. Seminar in American Literature, 1860-1900. 3 Credits.
In-depth exploration for doctoral students of selected topics or authors in American Literature from 1860 to 1900.

Rules & Requirements
Grading Status: Letter grade.

ENGL 847. Seminar in the American Novel. 3 Credits.
Doctoral-level seminar in the selected topics or authors.

Rules & Requirements
Grading Status: Letter grade.

ENGL 850. Studies in English and American Poetry of the 20th Century. 3 Credits.
Usually taught as a survey of major poets: Yeats, Frost, Stevens, Williams, Pound, Eliot, Auden, with some more recent poets.

Rules & Requirements
Grading Status: Letter grade.

ENGL 852. Seminar in Modern Drama. 3 Credits.
Explores representative works of contemporary playwrights.

Rules & Requirements
Grading Status: Letter grade.

ENGL 857. Studies in 20th-Century English and American Literature. 3 Credits.
Studies in special modern and/or contemporary topics; e.g., the Irish literary renaissance, Latina/o Studies, Asian American Studies, cultural, visual culture, postcolonial, gender, and/or ethnic studies, and British and/or American Literature.

Rules & Requirements
Grading Status: Letter grade.

ENGL 858. Studies in English and American Fiction of the 20th Century. 3 Credits.
Usually taught as a survey of major writers: Joyce, Lawrence, Woolf, Hemingway, Faulkner, with some other writers.

Rules & Requirements
Grading Status: Letter grade.

ENGL 860. Seminar in 20th-Century Literature, English and American. 3 Credits.
Seminar examining issues in modern English and American Literature.

Rules & Requirements
Grading Status: Letter grade.

ENGL 861. Seminar in Literary and Cultural Theory. 3 Credits.
Seminar with varying topics, focusing on recent developments in literary and cultural theory, including narratology, feminism, psychoanalysis, and postcolonial and materialist theory.

Rules & Requirements
Grading Status: Letter grade.

ENGL 862. Seminar in Cultural Studies. 3 Credits.
Advanced exploration of myriad tests, topics, controversies, institutions, and personalities that make up the ongoing knowledge projects that are loosely affiliated under the rubric 'cultural studies.'

Rules & Requirements
Grading Status: Letter grade.

ENGL 863. Seminar in Postcolonial Literature. 3 Credits.
Course examines the shifting meanings of postcoloniality in 20th- and 21st- century literature from formerly colonized countries.

Rules & Requirements
Grading Status: Letter grade.

ENGL 864. Studies in Latina/o Literature, Culture, and Criticism. 3 Credits.
Representative work by Latina/o writers and critics in relation to major social and historical trends and critical models-border theory, biculturalism, mestizaje, tropicalization, diaspora, pan-latinidad, Afro-Latina/o disidentifications, and LatinAsia Studies.

Rules & Requirements
Grading Status: Letter grade.

ENGL 868. African American and African Diasporan Literature, 1930-1970. 3 Credits.
Key writers within the context of selected literary, cultural, and critical traditions from 1930 to 1970.

Rules & Requirements
Grading Status: Letter grade.

ENGL 871. Seminar in African American Literature. 3 Credits.
An intensive study of a major writer or text, a group of writers or texts, or an important trend, tradition, or literary period.

Rules & Requirements
Grading Status: Letter grade.

ENGL 872. Studies in African American and African Diasporan Literature. 3 Credits.
An intensive study of a particular aspect of African American literature, such as speculative fiction, subject formation, comparative diasporan literatures, gender issues, theoretical and critical approaches, or formal innovations.

Rules & Requirements
Grading Status: Letter grade.

ENGL 874. Literature of the U.S. South: Special Topics. 3 Credits.
An in-depth treatment of selected topics (e.g., the Southern Renaissance, postmodern southern fiction, the racial conversion narrative) in Southern literature.

Rules & Requirements
Grading Status: Letter grade.

ENGL 875. Critical Race Theory-Graduate Seminar. 3 Credits.
Seminar examines and engages with critical race theory and the various texts (narrative, cultural productions) that are in conversation with theories of race and that reflect representations of race.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

ENGL 876. Introduction to Modern Irish I. 3 Credits.
An introduction to modern Irish grammar.

Rules & Requirements
Grading Status: Letter grade.

ENGL 877. Introduction to Modern Irish II. 3 Credits.
Readings in Modern Irish Literature.

Rules & Requirements
Requisites: Prerequisite, ENGL 876.
Grading Status: Letter grade.

ENGL 880. Ireland in Modernity. 3 Credits.
This course will examine the relationships between Irish writing, culture, and modernism, in the context of international developments in literature and art.

Rules & Requirements
Grading Status: Letter grade.

ENGL 881. Studies in Cinema. 3 Credits.
This course offers graduate students the opportunity to investigate, in a seminar setting, a particular subject within the domain of film studies.

Rules & Requirements
Grading Status: Letter grade.

ENGL 886. Seminar in Ecological Theory and Practice. 3 Credits.
In-depth evaluation of ecological theory, ecocritical pedagogy, and literary criticism.

Rules & Requirements
Grading Status: Letter grade.

ENGL 990. Directed Readings. 3 Credits.
Topics vary according to the needs and interests of the individual student and the professor directing the reading and writing project.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

ENGL 992. Master's (Non-Thesis). 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

ENGL 993. Master's Research and Thesis. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

ENGL 994. Doctoral Research and Dissertation. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

CMPL

Advanced Undergraduate and Graduate-level Courses

CMPL 411. Critical Theory. 3 Credits.
Overview of those realms of modern and contemporary thought and writing that are known as, and closely associated with, "critical theory."

Rules & Requirements
Grading Status: Letter grade.

CMPL 420. Film, Photography, and the Digital Image. 3 Credits.
This course examines the shifting nature of the cinematic medium in relation to both traditional photography and newer digital forms of image production. The aesthetic, ethical, and ontological aspects of cinema are explored in light of emergent technological and cultural conditions that demand a full-scale reconsideration of cinema's specificity.

Rules & Requirements
IDEAs in Action Gen Ed: FC-AESTH or FC-KNOWING.
Grading Status: Letter grade.

CMPL 421. Avant-Garde Cinema and Experimental Film. 3 Credits.
This course provides a historical, aesthetic, and theoretical survey of avant-garde cinema and experimental film, from the 1890s to the present.

Rules & Requirements
IDEAs in Action Gen Ed: FC-AESTH, RESEARCH.
Grading Status: Letter grade.

CMPL 442. Postcolonial Literature of the Middle East. 3 Credits.
This course introduces students to postcolonial literature and theory. The main focus in the course is on literary texts and literary analysis. However, we will use postcolonial theory to engage critically with the primary texts within a postcolonial framework. We will explore language, identity, physical and mental colonization, and decolonization.

Rules & Requirements
IDEAs in Action Gen Ed: FC-AESTH or FC-GLOBAL, RESEARCH.
Grading Status: Letter grade.
Same as: ASIA 442.

CMPL 450. Major Works of 20th-Century Literary Theory. 3 Credits.
Comparative study of representative works on literary and cultural theory or applied criticism to be announced in advance.

Rules & Requirements
IDEAs in Action Gen Ed: FC-AESTH.
Grading Status: Letter grade.

CMPL 452. The Middle Ages. 3 Credits.
Study of select examples of Western medieval literature in translation, with particular attention paid to the development of different genres, subjects, styles, and themes. Texts may be drawn from, among others, the French, Spanish, German, English, and Italian literary traditions, and may range in date from the eighth to the fifteenth centuries.

Rules & Requirements
Grading Status: Letter grade.

CMPL 453. The Erotic Middle Ages. 3 Credits.
Readings of major works of medieval European literature in translation from the 12th to 15th centuries, focusing on topics such as courtship, marriage, adultery, homoeroticism, domestic violence, mystical visions, and prostitution.

Rules & Requirements
IDEAs in Action Gen Ed: FC-AESTH or FC-PAST.
Grading Status: Letter grade.

CMPL 454. Literature of the Continental Renaissance in Translation. 3 Credits.
Discussion of the major works of Petrarch, Boccaccio, Machiavelli, Castiglione, Ariosto, Tasso, Rabelais, Ronsard, Montaigne, Cervantes, and Erasmus. Honors version available.

Rules & Requirements
IDEAs in Action Gen Ed: FC-AESTH or FC-KNOWING.
Grading Status: Letter grade.

CMPL 456. The 18th-Century Novel. 3 Credits.
English, French, and German 18th-century narrative fiction with emphasis on epistolary novel. The relation of the novel to the Enlightenment and its counterpart, the cult of sentimentality, and on shifting paradigms for family education, gender, and erotic desire.

Rules & Requirements
IDEAs in Action Gen Ed: FC-AESTH.
Grading Status: Letter grade.

CMPL 460. Transnational Romanticism: Romantic Movements in Europe and the Americas. 3 Credits.
Research-intensive course that explores how the Romantic movement beginning in 18th-century Europe has shaped the world we experience now. Topics vary and include revolutionary republicanism; slavery and abolition; quests for originality, expressiveness, and spiritual renovation; critiques of progress and modern urban culture; and revaluations of the natural world.

Rules & Requirements
IDEAs in Action Gen Ed: FC-AESTH or FC-PAST, RESEARCH.
Requisites: Prerequisite, ENGL 105.
Grading Status: Letter grade.

CMPL 462. Realism and Naturalism. 3 Credits.
An exploration of Realism and Naturalism in European and American literature, focusing on the movements' philosophical, psychological, and literary manifestations in selected texts.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-KNOWING.
Grading Status: Letter grade.

CMPL 463. Cinema and Surrealism. 3 Credits.
This course examines surrealism as an inter-art development between the First and Second World Wars. Taking a comparativist view, it focuses mainly on cinema but explores surrealist literature, painting, and sculpture as well. Much of the course traces the continuing relevance of surrealist practices in contemporary cinema.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-KNOWING.
Grading Status: Letter grade.

CMPL 466. Modernism. 3 Credits.
An exploration of the period concept of modernism in European literature, with attention to central works in poetry, narrative, and drama, and including parallel developments in the visual arts.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-KNOWING.
Grading Status: Letter grade.
Same as: EURO 466.

CMPL 467. Contemporary German and Austrian Cinema. 3 Credits.
Examines exciting new directions in German and Austrian cinema from the past 20 years. By analyzing weekly films, students develop skills in film analysis and criticism; read reviews, interviews, and film-theoretical texts; write a film review; and produce a critical essay. Films with English subtitles; readings and discussions in English. Students may not receive credit for both GERM 367 and 467. Previously offered as CMPL 267/ GERM 267.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-KNOWING.
Grading Status: Letter grade.
Same as: GERM 467.

CMPL 468. Aestheticism. 3 Credits.
Aestheticism as a discrete 19th-century movement and as a major facet of modernism in literature and literary theory. Authors include Kierkegaard, Baudelaire, Nietzche, Huysmans, Wilde, Mann, Rilke, Nabokov, Dinesen, Barthes, Sontag.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-KNOWING.
Grading Status: Letter grade.

CMPL 469. Milan Kundera and World Literature. 3 Credits.
This course traces Milan Kundera's literary path from his communist poetic youth to his present postmodern Francophilia. His work will be compared with those authors he considers his predecessors and influences in European literature. Taught in English. Some readings in Czech for qualified students.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH.
Grading Status: Letter grade.
Same as: CZCH 469.

CMPL 470. Concepts and Perspectives of the Tragic. 3 Credits.
History and theory of tragedy as a distinctive literary genre and as a more general literary and cultural problem. Authors include Aeschylus, Sophocles, Euripides, Shakespeare, Racine, Goethe, Nietzsche, Wagner, Mann, Samuel I and II, Faulkner. Also engages theorists, ancient and modern.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-KNOWING.
Grading Status: Letter grade.

CMPL 472. The Drama from Ibsen to Beckett. 3 Credits.
The main currents of European drama from the end of the 19th century to the present. Includes Chekhov, Strindberg, Pirandello, Lorca, Brecht, Anouilh.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH.
Grading Status: Letter grade.

CMPL 473. Drama, Pageantry, and Spectacle in Medieval Europe. 3 Credits.
An introduction to many different forms of medieval drama and pageantry, including plays, tournaments, public executions, and religious processions. Plays, artwork, and texts from a range of Western European countries, ranging in date from the eighth to the 16th centuries, may be considered.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-PAST.
Grading Status: Letter grade.

CMPL 474. Words and Pictures: Literature and Photography in the 20th Century. 3 Credits.
The course examines literary responses to the medium of photography from the early 20th to the early 21st century. It explores how the "realism" of photographic images challenged, inspired, and transformed the character of literary narration. It asks about the ways in which literary texts used and incorporated photographs for their own fictional and documentary purposes. And it relates these aesthetic purposes to the particular socio-political contexts--ranging from the rise of modernity around 1900 to post-modern debates around 2000--in which the respective works were produced. Authors include Kafka, Rilke, Benjamin, Kluge, Barthes, Sontag, and Sebald. Taught in English.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-PAST.
Grading Status: Letter grade.
Same as: GERM 474.

CMPL 477. Wicked Desire: Vladimir Nabokov, Lolita, on Page and Screen. 3 Credits.
Vladimir Nabokov's novel Lolita (1955) became a global phenomenon due to its unflinching portrayal of pedophilia. This course will delve deeper into the novel's moral complexity, its international context, and its reflection in mass culture, including movies by Stanley Kubrick (1962) and Adrian Lyne (1997). Taught in English; some readings in Russian for qualified students.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH.
Grading Status: Letter grade.
Same as: RUSS 477.

CMPL 480. Queering China. 3 Credits.
This course explores "queer" expressions in Chinese literature and visual culture from 1949 through the twenty-first century. It surveys a combination of all-time classics and lesser-known cultural texts featuring non-heteronormative sexual desire and gender-bending performance. We mobilize queer as a broad site of critique beyond Western models of the concept, asking not only how queer challenges normative bodyminds, but also how it negotiates notions of age, family, race, and the neoliberal order.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-POWER.
Grading Status: Letter grade.
Same as: CHIN 480, WGST 480.

CMPL 482. Philosophy and Literature. 3 Credits.
Philosophical readings of literary texts, including novels, plays, and poems.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.
Same as: PHIL 482.

CMPL 483. Cross-Currents in East-West Literature. 3 Credits.
The study of the influence of Western texts upon Japanese authors and the influence of conceptions of "the East" upon Western writers. Goldsmith, Voltaire, Soseki, Sterne, Arishima, Ibsen, Yoshimoto, Ishiguro.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-GLOBAL.
Grading Status: Letter grade.
Same as: ASIA 483.

CMPL 485. Approaches to 20th-Century Narrative. 3 Credits.
An examination of central trends in 20th-century narrative.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH.
Grading Status: Letter grade.

CMPL 487. Literature and the Arts of Love. 3 Credits.
Love and sexuality in literary works from various historical periods and genres. Authors include Sappho, Plato, Catullus, Propertius, Ovid, Dante, Petrarch, Shakespeare, LaClos, Goethe, Nabokov, and Roland Barthes.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-KNOWING.
Grading Status: Letter grade.

CMPL 489. Empire and Diplomacy. 3 Credits.
Examines the history of the British Empire and the role of peace, war, defense, diplomacy, and letters in shaping Britain's presence on the world stage. Honors version available.

Rules & Requirements
Grading Status: Letter grade.
Same as: PWAD 489.

CMPL 490. Special Topics. 3 Credits.
Topics vary from semester to semester.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 9 total credits. 3 total completions.
Grading Status: Letter grade.

CMPL 494. The Essay Film: Adventures in Modern Cinema since 1945. 3 Credits.
Examines aesthetic, political, historical, and philosophical aspects of essay films in international cinema, focusing on examples by directors such as Chris Marker, Orson Welles, Harun Farocki, Agnes Varda, Errol Morris, and Jean-Luc Godard.

Rules & Requirements
Grading Status: Letter grade.

CMPL 495. Advanced Seminar. 3 Credits.
This seminar allows comparative literature majors to work on an independent project to synthesize their curricular experience, and it introduces them to current, broadly applicable issues in comparative literature. Previously offered as CMPL 500.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH, RESEARCH.
Grading Status: Letter grade.

CMPL 496. Reading Course. 3 Credits.
Readings vary from semester to semester. The course is generally offered for three credits.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

CMPL 520. Cinema, Painting, and The Frame. 3 Credits.
This course comparatively explores the relationship between cinema and painting. Drawing on methods and concepts from art history, and considering photography as an intermediary between painting and film, this course considers the aesthetic, political, and philosophical dimensions of the frame.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH.
Grading Status: Letter grade.

CMPL 527. Cold War Culture in East Asia: Transnational and Intermedial Connections. 3 Credits.
This course introduces students to the specific contours that the Cold War accrued in East Asia. Focusing on literature and film, it explores what the fall of the Japanese Empire and the emergence of the post-1945 world meant across the region.

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL or FC-VALUES.
Grading Status: Letter grade.
Same as: ASIA 427, PWAD 427.

CMPL 535. The Cinemas of the Middle East and North Africa. 3 Credits.
This course explores the social, cultural, political, and economic contexts in which films are made and exhibited and focuses on shared intra-regional cinematic trends pertaining to discourse, aesthetics, and production.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-GLOBAL.
Grading Status: Letter grade.
Same as: ASIA 435, PWAD 435.

CMPL 545. Chinese Science Fiction. 3 Credits.
This research seminar contextualizes the contemporary explosion of Chinese science fiction within modern Chinese intellectual history and SF studies worldwide. We read globally influential novels such as The Three-Body Problem and trace several waves of the genre's century-long evolution within Chinese literature. We ask how threats of global annihilation, the exhaustion of environmental resources, discoveries in virology, epigenetics, and innovations in cybernetics intersect with global development, climate migration, decolonization, and structures of race and class.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-GLOBAL, RESEARCH.
Grading Status: Letter grade.
Same as: CHIN 545.

CMPL 547. Documenting Diasporas: Korean Diasporas in Films and Documentaries. 3 Credits.
In this course, we will explore the multiple, shifting, and often contested diasporic subjectivities represented and produced in Korean diaspora cinemas; these subjectivities encompass various Korean diaspora communities in Asia, Central Asia, Europe, and the Americas.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-KNOWING.
Grading Status: Letter grade.
Same as: KOR 447.

CMPL 558. The Lives and Times of Medieval Corpses. 3 Credits.
An investigation of the social, political, and literary uses of corpses in the Middle Ages.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-PAST.
Grading Status: Letter grade.

CMPL 560. Reading Other Cultures: Issues in Literary Translation. 3 Credits.
Permission of the instructor. Reading knowledge of a language other than English recommended. Starting from the proposition that cultural literacy would be impossible without reliance on translations, this course addresses fundamental issues in the practice, art, and politics of literary translation. Previously offered as SLAV 560.

Rules & Requirements
Grading Status: Letter grade.
Same as: GSLL 560.

CMPL 563. Studies in the Anglo-French Renaissance. 3 Credits.
Recommended preparation, FREN 370 (for students taking the course for French credit), or one course from ENGL 225 to ENGL 229, or one course from CMPL 120 to CMPL 124. Study of French-English literary relations in the Renaissance, focusing on literary adaptation and appropriation, poetics, political writing, and related areas. Conducted in English; students may do written work in French for major or minor credit.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.
Same as: FREN 563.

CMPL 579. What is a Medium? German Media Theory from Aesthetics to Cultural Techniques. 3 Credits.
This seminar provides students across the humanities with an overview of the historical and cultural relevance of German media theories. We will discuss the distinction between "art" and "medium", the role of technology and techniques, as well as the interaction of media theory and practice with politics. Films with English subtitles; readings and discussions in English. Previously offered as CMPL 479/GERM 479.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-KNOWING.
Grading Status: Letter grade.
Same as: GERM 579.

CMPL 621. Arthurian Romance. 3 Credits.
British and continental Arthurian literature in translation from the early Middle Ages to Sir Thomas Malory.

Rules & Requirements
Grading Status: Letter grade.
Same as: ENGL 621.

CMPL 622. Medieval Cosmopolitanisms. 3 Credits.
An examination of medieval engagements with the foreign and the extent to which those engagements challenged conventional ways of thinking about the world.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-PAST.
Grading Status: Letter grade.

CMPL 624. The Baroque. 3 Credits.
Required preparation, one course from CMPL 120-129. Analysis of the Baroque as an aesthetic movement, including major, representative literary works, comparisons of literature and the visual arts, and the study of theories of the Baroque and Neo-Baroque. Authors studied may include Tasso, Racine, Cervantes, and Shakespeare, among others.

Rules & Requirements
Grading Status: Letter grade.

CMPL 685. Literature of the Americas. 3 Credits.
Multidisciplinary examination of texts and other media of the Americas, in English and Spanish, from a variety of genres. Two years of college-level Spanish or the equivalent recommended but not required.

Rules & Requirements
IDEAs in Action Gen Ed: FC-AESTH or FC-POWER.
Grading Status: Letter grade.
Same as: ENGL 685.

CMPL 691H. Comparative Lit Senior Honors Thesis Part I. 3 Credits.
Required of all students reading for honors in comparative literature.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

CMPL 692H. Comparative Lit Senior Honors Thesis Part II. 3 Credits.
Required of all students reading for honors in comparative literature.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Requisites: Prerequisite, CMPL 691H.
Grading Status: Letter grade.

Graduate-level Courses

CMPL 700. Problems and Methods in Comparative Literature. 3 Credits.
The course deals with the history of comparative literature, bibliographical materials, orientations of the subject in Europe and America, and problems of methodology, periodization, literary movements, and concepts of literary theory.

Rules & Requirements
Grading Status: Letter grade.

CMPL 737. Topics in Contemporary Literary and Cultural Theory. 3 Credits.
Selected critical topics in poststructuralist thought, chosen by the instructor and announced in advance.

Rules & Requirements
Grading Status: Letter grade.

CMPL 741. The Essay and Short Story. 3 Credits.
Theory and practice of the essay and short story. Topics include masters of the Spanish American and international essay and short story, the evolution of both genres, gender, cultural studies.

Rules & Requirements
Grading Status: Letter grade.
Same as: SPAN 741.

CMPL 745. The Vanguards. 3 Credits.
The theory and practice of innovative writing, especially since the 19th century. Topics include the historical Spanish American and Anglo-European vanguards, experimental literature, modernismo's literary rebellion, gender, and cultural studies.

Rules & Requirements
Grading Status: Letter grade.
Same as: SPAN 745.

CMPL 747. The Contemporary Spanish American Novel. 3 Credits.
The theory and practice of the novel since the 1960s. Topics include the Spanish American "Boom" of the 60s and 70s, major international trends and writers, gender, cultural studies.

Rules & Requirements
Grading Status: Letter grade.
Same as: SPAN 747.

CMPL 796. Reading Course. 1-21 Credits.
Rules & Requirements
Grading Status: Letter grade.

CMPL 821. Reading Ironies. 3 Credits.
Study of processes of recognizing and constructing ironies in texts, with consideration of both theoretical issues and practical readings.

Rules & Requirements
Grading Status: Letter grade.

CMPL 841. History of Literary Criticism I: The Origins of Theory and Criticism. 3 Credits.
Traces major strains in literary criticism and theory from classical antiquity to the 18th century, pairing primary critical texts with contemporary literary examples and modern day theoretical responses. Authors read include: Plato, Aristotle, Aristophanes, Horace, Augustine, and Burke; Homer, Ovid, Virgil, Dante, and Pope; and Auerbach, Derrida, Ricoeur, and Benjamin.

Rules & Requirements
Grading Status: Letter grade.

CMPL 842. History of Literary Criticism II: 1750-1950. 3 Credits.
Study of major theoretical and critical writings in Europe from the middle of the 18th to the early 20th century.

Rules & Requirements
Grading Status: Letter grade.

CMPL 843. 20th-Century Literary Theory. 3 Credits.
An overview of major theoretical developments of the 20th century, including such movements as Saussurean linguistics, Russian Formalism, Prague Circle Semiotics, poststructuralism, phenomenology, psychoanalysis, feminism, and Marxism.

Rules & Requirements
Grading Status: Letter grade.

CMPL 844. Modern Women Writers. 3 Credits.
Exploration of 'l'ecriture feminine' through texts of modern women writers, artists, and critics who expanded the frontiers of expression beyond the conventionally articulable into spaces of silence and the 'non-dit.'

Rules & Requirements
Grading Status: Letter grade.

CMPL 866. Melancholia. 3 Credits.
This seminar will examine the historical variability of melancholy as it relates to works of visual art and literature, as well as philosophical, religious, psychological, and medical discourses from French, German, Italian and English-speaking Europe. Emphasis will be placed on German literature from the Middle Ages to the 20th century and on exploring the inherent melancholy of its modes of imagination, expression, and representation.

Rules & Requirements
Grading Status: Letter grade.
Same as: GERM 866.

CMPL 890. Special Topics in Comparative Literature. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.

CMPL 892. Interdisciplinary Seminar in Renaissance Studies. 3 Credits.
Topic announced annually in advance.

Rules & Requirements
Grading Status: Letter grade.

CMPL 894. Seminar. 3 Credits.
Topic announced annually in advance.

Rules & Requirements
Grading Status: Letter grade.

CMPL 900. Research. 0.5-21 Credits.
Rules & Requirements
Grading Status: Letter grade.

CMPL 992. Master's (Non-Thesis). 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

CMPL 993. Master's Research and Thesis. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

CMPL 994. Doctoral Research and Dissertation. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

Contact Information

Department of English and Comparative Literature
Visit Program Website (http://englishcomplit.unc.edu)

Chair
Marsha Collins
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Kim Stern
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ENVIRONMENT, ECOLOGY, AND ENERGY PROGRAM (GRAD)

The Environment, Ecology, and Energy Program (E3P) is a multidisciplinary, degree-granting program that seeks to foster an understanding and appreciation of ecological systems and to demonstrate the value of ecological approaches to the solution of current and future environmental problems. With the participation of faculty and students from many disciplines and departments, emphasis is placed on interdisciplinary activities that explicitly consider the complexity of the environment and integrated approaches to problem identification and solution. In particular, it seeks to foster an understanding and appreciation of ecological systems, human and nonhuman, and to demonstrate the value of ecological approaches to the solution of current and future environmental problems.

Current faculty come from the departments of anthropology, biology, biostatistics, city and regional planning, communication, economics, environmental sciences and engineering, geography, earth, marine and environmental sciences, public policy, and sociology. Whereas degree programs with a strong ecology component may be arranged in other departments, by combining many approaches and methods and by linking the social and natural sciences the curriculum explicitly considers the complexity of the environment and the need for integrated approaches to problem identification and solution. Using the resources of many departments, E3P provides both broad and specialized training in ecology, human ecology, and the study of environmental systems. Graduate degrees available in the program are the master of science, the master of arts, and the doctor of philosophy. Applications will be accepted from persons with varied backgrounds and goals, with the specific program of study and research tailored to the needs of the individual.

Requirements for Admission

For admission to E3P, an undergraduate degree is required in a natural science such as physics, chemistry, biology, bacteriology, botany, zoology, or geology; a social science such as anthropology, sociology, or economics; a mathematical area such as statistics, mathematics, or systems analysis; an engineering area; or environmental science. To guarantee full consideration for admission and campus fellowships, students must submit all program and Graduate School admission materials by mid-December. Late applications will cause students to miss out on some opportunities. The specific deadline in a given year can be found by checking the E3P website (https://e3p.unc.edu/academics/graduate-program/graduate-admissions/) and The Graduate School's admissions website (http://gradschool.unc.edu/admissions/).

Every student must gain an understanding of the breadth and depth of ecology and environmental sciences as they are treated among various traditional disciplines. This is accomplished in two ways: first, through the ENEC 567 and ENEC 569 course sequence; and second, through the composition of the student's advisory committee. Students are required to do their best to establish state residency in their first year and must apply for state residency after their first year in order to be considered for tuition remission in subsequent years.

Doctor of Philosophy

Each ecology Ph.D. student, in addition to taking ENEC 567 and ENEC 569, must register for ENEC 994 at least once for three hours credit. There are no other course requirements for the Ph.D. except for those designated by the student's graduate advisory committee and as long as the student meets the credit hour requirements of The UNC Graduate School.

Owing to the diversity of research methods and approaches within the field of ecology and environmental sciences", the curriculum has no explicit research skill course requirements for graduate degrees. The student's graduate advisory committee is responsible for seeing that the student has gained the proficiencies expected of a degree candidate in the student's selected area of expertise.

Master's Degrees

Two master's degrees are offered by the program: the master of science degree requiring independent research and a thesis, and the master of arts degree requiring a thesis question and literature research review. All master's degrees are terminal degrees at UNC–Chapel Hill. Master's students must request readmission for Ph.D. work following completion of all requirements for the master's degree.

Master of Science

The master of science course requirements are determined by the student's advisory committee. They must include a minimum of 30 hours of graduate credit (of which no less than 24 hours must be earned in courses, and at least three hours in research), and completion of the thesis. One semester of registration is required in ENEC 567 and ENEC 569, and M.S. students must register for three hours of ENEC 993.

Master of Arts

Requirements for the master of arts are the same as those for the master of science, except a master of arts paper is prepared (ENEC 992) in place of a master's thesis (ENEC 993).

Affiliated Professors

Carol Arnosti (Earth, Marine, and Environmental Sciences)
Todd Bendor (City and Regional Planning)
John Bruno (Biology)
Jaye Cable (Earth, Marine, and Environmental Sciences)
Karl Castillo (Earth, Marine, and Environmental Sciences)
Michael Emch (Geography and Environment)
Barbara Entwisle (Sociology)
Joel Fodrie (Earth, Marine, and Environmental Sciences)
Clark Gray (Geography and Environment)
Elizabeth Havice (Geography and Environment
Donald Hornstein (School of Law)
Allen Hurlbert (Biology)
Chip Konrad (Geography and Environment)
Paul Leslie (Anthropology)
Adrian Marchetti (Earth, Marine, and Environmental Sciences)
Christopher Martens (Earth, Marine, and Environmental Sciences)
Charles Mitchell (Biology)
Laura J. Moore (Earth, Marine, and Environmental Sciences)
Rachel Noble (Earth, Marine and Environmental Sciences)
Hans Paerl (Earth, Marine and Environmental Sciences)
Tamlin Pavelsky (Earth, Marine, and Environmental Sciences)
David Pfennig (Biology)
Karin Pfennig (Biology)

Michael Piehler (Earth, Marine and Environmental Sciences)
Diego Riveros-Iregui (Geography and Environment)
Harvety Seim (Earth, Marine and Environmental Sciences)
Maria Servedio (Biology)
Conghe Song (Geography and Environment)
Donna Surge (Earth, Marine and Environmental Sciences)
Andreas Teske (Earth, Marine and Environmental Sciences)
Gabriela Valdivia (Geography and Environment)
Colin West (Anthropology)
Erika Wise (Geography and Environment)
Andrew Yates (Economics)

Affiliated Associate Professors

Mark Alperin (Earth, Marine and Environmental Sciences)
Angel Hsu (Public Policy)
Sophie McCoy (Biology)
Aaron Moody (Geography and Environment)
Janet Nye (Earth, Marine, and Environmental Sciences)
Johanna Rosman (Earth, Marine and Environmental Sciences)
Alecia Septer (Earth, Marine and Environmental Sciences)

Affiliated Assistant Professors

Benjamin Bridges (American Studies)
Amanda DelVecchia (Geography and Environment)
Miyuki Hino (City and Regional Planning)
Noah Kittner (Environmental Sciences and Engineering)
Caela O'Connell (Anthropology)
Antonia Sebastian (Earth, Marine, and Environmental Sciences)
Paul Tallie (Geography and Environment)

Research Faculty

Dick Bilsborrow (Biostatistics)
Jim Costa (Western Carolina University)
Elizabeth Dickinson (Kenan–Flagler Business School)
Lindsay Dubbs (Coastal Studies Institute)
Rich Kamens (Environmental Sciences and Engineering)
Andy Keeler (East Carolina University)
David McNelis (Institute for the Environment)
Robert Peet (Emeritus, Biology)
Rada Petric (Highlands Biological Station)
Johnny Randall (N.C. Botanical Gardens)
Elizabeth Shay (Appalachian State University)
Alan Weakley (NC Botanical Garden)
Jason West (Environmental Sciences and Engineering)
Peter White (Emeritus, Biology)

Teaching Professors

Geoffrey Bell
Amy Cooke
Greg Gangi

Teaching Assistant Professors

Todd DeZwaan
David Hatcher
Léda Gerber Van Doren

Lecturer

Brian Naess (Institute for the Environment)

ENEC

Advanced Undergraduate and Graduate-level Courses

ENEC 403. Environmental Chemistry Processes. 3 Credits.
Required preparation, a background in chemistry and mathematics, including ordinary differential equations. Chemical processes occurring in natural and engineered systems: chemical cycles; transport and transformation processes of chemicals in air, water, and multimedia environments; chemical dynamics; thermodynamics; structure/activity relationships.

Rules & Requirements
Requisites: Pre- or corequisite, CHEM 261.
Grading Status: Letter grade.
Same as: ENVR 403, CHEM 403.

ENEC 404. Agent-Based Modeling of Social-Ecological Systems. 3 Credits.
This course exposes students to the potential of using agent-based modeling (ABM) to explore social-ecological system dynamics. ABM is used across the social and natural sciences and students will gain both theoretical and applied knowledge in how to use it. Students will acquire skills in computer-simulation modeling, social-ecological systems, writing code, building models and the quantitative interpretation of results. They will do so using the java-based ABM program NetLogo.

Rules & Requirements
IDEAs in Action Gen Ed: FC-QUANT, FC-LAB.
Grading Status: Letter grade.
Same as: ANTH 404.

ENEC 405. Mountain Preservation. 4 Credits.
Introduces students to approaches used to preserve the natural and cultural heritage of the Southern Appalachians. Taught at off-campus field station.

Rules & Requirements
Grading Status: Letter grade.

ENEC 406. Atmospheric Processes II. 4 Credits.
Principles of analysis of the atmosphere are applied to the analysis of environmental phenomena. The link between the atmosphere and other environmental compartments is explored through environmental case studies.

Rules & Requirements
Grading Status: Letter grade.
Same as: GEOG 406.

ENEC 407. Principles of Energy Conversion. 3 Credits.
Recommended preparation, ENEC 201, and MATH 152 or 231. This course will get students familiar with the principles governing the conversion of a variety of non-renewable and renewable resources to energy services. Physical, chemical, and biological principles involved in the design and analysis of these systems will be reviewed. The basics of project economics applied to the design of energy conversion systems will also be introduced.

Rules & Requirements
Grading Status: Letter grade.

ENEC 410. Earth Processes in Environmental Systems. 4 Credits.
Principles of geological and related Earth systems sciences are applied to analyses of environmental phenomena. The link between the lithosphere and other environmental compartments is explored through case studies of environmental issues. Three lecture hours and one laboratory hour a week.

Rules & Requirements
Requisites: Prerequisites, CHEM 102, GEOL 200, and MATH 231; and PHYS 115 or 119; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.
Same as: EMES 410.

ENEC 411. Oceanic Processes in Environmental Systems. 4 Credits.
Principles of analysis of the ocean, coast, and estuarine environments and the processes that control these environments are applied to the analysis of environmental phenomena. Case studies of environmental issues. Three lecture hours and one laboratory hour a week.

Rules & Requirements
Requisites: Prerequisite, BIOL 101, CHEM 102, ENEC 222, MATH 231, PHYS 115 or PHYS 119; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.
Same as: EMES 411.

ENEC 412. Principles and Methods of Teaching Earth Science. 4 Credits.
Required preparation: any introductory geology course. This course develops the knowledge and skills teachers need to implement student-centered, inquiry-based earth science instruction at any level level by teaching instructional design and cognitive science and learning theories. Primary literature review and development of lesson modules will be complemented by classroom observations and teaching experiences in formal and informal settings. Course previously offered as GEOL 412.

Rules & Requirements
IDEAs in Action Gen Ed: HI-SERVICE, COMMBEYOND.
Grading Status: Letter grade.
Same as: EMES 412.

ENEC 415. Environmental Systems Modeling. 3 Credits.
This course explores principles and strategies for studying environmental phenomena, and presents methods for developing explanatory and predictive models of environmental systems, e.g., predator-prey, estuaries, greenhouse gases, and ecosystem material cycles.

Rules & Requirements
Requisites: Prerequisite, MATH 383; pre- or corequisite, PHYS 115 or 118, and COMP 116.
Grading Status: Letter grade.
Same as: EMES 415.

ENEC 416. Environmental Meteorology. 3 Credits.
This course explores atmospheric processes most important to environmental problems such as the transport and transformation of air pollutants and weather systems involved in intercontinental transport of gases and particles.

Rules & Requirements
Grading Status: Letter grade.

ENEC 417. Surface Processes and Landscape Evolution. 4 Credits.
The interplay among the fluxes of water, energy, and sediment through geologic time sculpt landscapes and drive environmental change. In both lectures and laboratory exercises, students will learn how simple physical principles applied to rivers and hillslopes allow us to understand the evolution of topography and mountain belts, predict hazards arising from floods, landslides and debris flows, and lead to sustainable management of natural resources such as soil. Previously offered as GEOL 417.

Rules & Requirements
Requisites: Pre- or corequisites, EMES 200 and EMES 201; permission of the instructor for students lacking the pre- or corequisites.
Grading Status: Letter grade.
Same as: EMES 417.

ENEC 419. Anthropological Application of GIS. 3 Credits.
This is a beginner/intermediate Geographic Information System/Science (GIS/GISci) course designed to help students develop spatial analysis and data visualization skills using ArcGIS Pro software. The emphasis is on understanding the structure and efficient storage of GIS data (feature classes and geodatabases) and how to work with multiple different types of spatial data (vector, raster, and tabular). Students learn geoprocessing techniques to transform data based on spatial relationships; different methods to classify data based on attributes; and how to perform basic calculations using spatial geometry. This is done through lectures and weekly labs using real world data. Permission of the instructor.

Rules & Requirements
IDEAs in Action Gen Ed: FC-QUANT, FC-LAB.
Grading Status: Letter grade.
Same as: ANTH 419.

ENEC 420. Community Design and Green Architecture. 3 Credits.
The impact of building on the environment and health will be examined by looking at the major areas of: land use planning, water resource use, energy, materials and indoor environment.

Rules & Requirements
Grading Status: Letter grade.
Same as: PLAN 420.

ENEC 421. Textiles: Environmental Impacts, Issues, and Innovations. 3 Credits.
Textiles are pervasive in our lives, from clothing to upholstery, yet have major impacts on our environment and health, from the products' cradle to grave. This course examines the environmental and social costs of producing our clothing, carpet, and other textiles in daily life. We will also consider possible solutions currently offered by industry and entrepreneurs.

Rules & Requirements
Requisites: Pre- or co-requisite, ENEC 201 or 202; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

ENEC 431. Sustainable Cities: Exploring Ways of Making Cities More Sustainable. 3 Credits.
Recommended preparation, ENEC 330. For the first time in history, a majority of the world's people live in cities with huge implications for sustainability. Students will examine the factors driving the trend toward urbanization worldwide, the challenges posed by this trend, and the efforts by cities to become more sustainable.

Rules & Requirements
Grading Status: Letter grade.

ENEC 432. Environmental Life Cycle Assessment. 3 Credits.
Recommended preparation, ENEC 201, and MATH 110 or 130. This class will introduce students to environmental life cycle assessment (LCA). The methodology to calculate the environmental impacts associated with a product, a service, or a system will be reviewed through case studies in the field of energy systems, waste management, and eco-design. Students will also get a chance to learn how to perform a full LCA through a hands-on project using LCA software and databases.

Rules & Requirements
Grading Status: Letter grade.

ENEC 433. Wetland Hydrology. 3 Credits.
Study of wetland ecosystems with particular emphasis on hydrological functioning, the transition from terrestrial to aquatic systems, wetlands as filtration systems, and exchange between wetlands and other environments. Course previously offered as MASC 433.

Rules & Requirements
Grading Status: Letter grade.
Same as: EMES 433.

ENEC 435. Principles of Environmental Consulting: Mechanics of Groundwater Flow. 3 Credits.
Water is an essential resource for all life, and the availability of clean water will become one of the most important socio-political and economic discussions over the coming decades. This course covers fundamentals of groundwater storage, subsurface flow, and contaminant transport, emphasizing the role of groundwater in the hydrologic cycle, the relation of groundwater flow to geologic structure, and the management of contaminated groundwater and drinking water resources. Course previously offered as GEOL 435.

Rules & Requirements
Requisites: Prerequisite, EMES 324; MATH 232; PHYS 114 or 118; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.
Same as: EMES 435.

ENEC 437. Social Vulnerability to Climate Change. 3 Credits.
How does climate change affect vulnerable human populations? We will attempt to answer a shared research question on this topic by reading the peer-reviewed literature and by conducting a semester-long data analysis project incorporating social and climate data from around the world. This is a course-based undergraduate research experience (CURE).

Rules & Requirements
IDEAs in Action Gen Ed: FC-GLOBAL, RESEARCH.
Grading Status: Letter grade.
Same as: GEOG 437.

ENEC 441. Marine Physiological Ecology. 3 Credits.
This course introduces students to the physiological, morphological, and behavioral factors employed by marine organisms to cope with their physical environment. Emphasis will be placed on the response of marine organisms to environmental factors such as seawater temperature, light, water salinity, ocean acidification, etc. Course previously offered as MASC 441.

Rules & Requirements
Grading Status: Letter grade.
Same as: EMES 441.

ENEC 444. Marine Phytoplankton. 3 Credits.
For junior and senior science majors or graduate students. Biology of marine photosynthetic protists and cyanobacteria. Phytoplankton evolution, biodiversity, structure, function, biogeochemical cycles and genomics. Harmful algal blooms, commercial products, and climate change. Three lecture/practical session hours per week. Course previously offered as MASC 444. Permission of the instructor.

Rules & Requirements
Grading Status: Letter grade.
Same as: EMES 444, BIOL 456.

ENEC 448. Coastal and Estuarine Ecology. 4 Credits.
A field-intensive study of the ecology of marine organisms and their interactions with their environment, including commercially important organisms. Laboratory/recitation/field work is included and contributes two credit hours to the course. Course previously offered as MASC 448.

Rules & Requirements
Requisites: Prerequisites, CHEM 102 and MATH 231.
Grading Status: Letter grade.
Same as: EMES 448.

ENEC 450. Biogeochemical Processes. 4 Credits.
Principles of chemistry, biology, and geology are applied to analysis of the fate and transport of materials in environmental systems, with an emphasis on those materials that form the most significant cycles. Three lecture hours and one laboratory hour a week. Previously offered as GEOL 450/MASC 450.

Rules & Requirements
Requisites: Prerequisites, CHEM 101 or permission of instructor.
Grading Status: Letter grade.
Same as: EMES 450.

ENEC 451. Population, Development, and the Environment. 3 Credits.
Introduction to contemporary and historical changes in human population, international development, and the global environment and how these processes interact, drawing on population geography as an organizing framework. Previously offered as GEOG 450.

Rules & Requirements
IDEAs in Action Gen Ed: FC-GLOBAL.
Grading Status: Letter grade.
Same as: GEOG 451.

ENEC 459. Ecological Anthropology. 3 Credits.
Examines how human-environmental adaptations shape the economic, social, and cultural lives of hunter-gatherers, pastoralists and agriculturalists. Approaches include optimal foraging theory, political ecology and subsistence risk.

Rules & Requirements
Grading Status: Letter grade.
Same as: ANTH 459.

ENEC 460. Historical Ecology. 3 Credits.
Historical ecology is a framework for integrating physical, biological, and social science data with insights from the humanities to understand the reciprocal relationship between human activity and the Earth system.

Rules & Requirements
Grading Status: Letter grade.
Same as: ANTH 460.

ENEC 461. Fundamentals of Ecology. 4 Credits.
Students will develop a comprehensive understanding of the field of ecology, including modern and emerging trends in ecology. They will develop literacy in the fundamental theories and models that capture ecological processes; emphasis will also be placed on the relevance of ecology and ecological research for human society.

Rules & Requirements
Requisites: Prerequisites, BIOL 201; or BIOL 103, BIOL 104, and BIOL 260.
Grading Status: Letter grade.
Same as: BIOL 461.

ENEC 462. Ecosystem Management. 3 Credits.
Explores the ecological concepts underlying ecosystem management (e.g., genetic and species diversity, stability, resilience, landscape ecology, etc.), the tools used in the approach, and case studies of how communities are implementing ecosystem management.

Rules & Requirements
Requisites: Prerequisite, BIOL 101.
Grading Status: Letter grade.

ENEC 463. Corporate Environmental Stewardship. 3 Credits.
This course explores the intersection of business/economic growth and the major sustainability issues affecting the environment and societal well-being and raises questions about business ethics and the moral responsibility of business leaders, consumers, and citizens. Previously offered as ENEC 306.

Rules & Requirements
IDEAs in Action Gen Ed: FC-GLOBAL or FC-VALUES.
Requisites: Prerequisite, ENEC 201.
Grading Status: Letter grade.
Same as: BUSI 463.

ENEC 465. Global Biodiversity and Macroecology. 3 Credits.
We will explore global patterns of diversity of plants, animals, fungi, and microbes, and the insights gained by taking a statistical approach to describing these and other broad-scale ecological patterns.

Rules & Requirements
IDEAs in Action Gen Ed: FC-NATSCI or FC-QUANT, RESEARCH.
Requisites: Prerequisites, BIOL 201; or BIOL 103, BIOL 104, and BIOL 260; or permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.
Same as: BIOL 465.

ENEC 468. Temporal GIS and Space/Time Geostatistics for the Environment and Public Health. 3 Credits.
Reviews geographical information systems (GIS). Covers geostatistics theory for the interpolation of environmental and health monitoring data across space and time. Uses publicly available water and air quality monitoring data to create maps used for environmental assessment, regulatory compliance analysis, exposure science, and risk analysis.

Rules & Requirements
Requisites: Prerequisite, MATH 232; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Same as: ENVR 468.

ENEC 470. Environmental Risk Assessment. 3 Credits.
Required preparation, one course in probability and statistics. Use of mathematical models and computer simulation tools to estimate the human health impacts of exposure to environmental pollutants. Three lecture hours per week.

Rules & Requirements
Grading Status: Letter grade.
Same as: ENVR 470.

ENEC 471. Human Impacts on Estuarine Ecosystems. 4 Credits.
A cohesive examination of the human impacts on biological processes in estuarine ecosystems. Laboratory/recitation/field work is included and contributes two credit hours to the course. Taught at off-campus field station.

Rules & Requirements
Requisites: Prerequisites, CHEM 102 and MATH 231.
Grading Status: Letter grade.
Same as: EMES 471.

ENEC 473. Business and Finance Fundamentals for Change Makers. 3 Credits.
This course is designed to develop basic finance skills along with familiarity with core business concepts. The goal of the course is to empower non-business majors with the skills and vocabulary required to advance the goals of pro-environment businesses and social entrepreneurs.

Rules & Requirements
IDEAs in Action Gen Ed: FC-QUANT.
Grading Status: Letter grade.

ENEC 474. Sustainable Coastal Management. 3 Credits.
This course explores the environmental history of the Albemarle estuary and its larger watershed and explores ways in which humans can utilize this region in a more sustainable manner. Taught at off-campus field station.

Rules & Requirements
Grading Status: Letter grade.

ENEC 475. The Political Economy of Food. 3 Credits.
This course examines the political and economic dimensions of the food we eat, how it is produced, who eats what, and related social and environmental issues, both domestic and international, affecting the production, pricing, trade, distribution, and consumption of food. Honors version available.

Rules & Requirements
Grading Status: Letter grade.
Same as: PLCY 475.

ENEC 479. Landscape Analysis. 3 Credits.
This course utilizes GIS, GPS, and remote sensing technologies to gather data on geology, watersheds, soils, integrated moisture indices. The class also develops habitat maps and derives species diversity indices. Taught at off-campus field station.

Rules & Requirements
Grading Status: Letter grade.

ENEC 481. Energy Economics. 3 Credits.
This course develops a core set of principles to understand and evaluate energy markets, policies, and regulations. Topics include oil markets, electric vehicles and CAFÉ standards, pollution permit markets and C02 regulations, and electricity markets.

Rules & Requirements
Requisites: Prerequisite, ECON 101.
Grading Status: Letter grade.

ENEC 482. Energy and the Environment: A Coastal Perspective. 3 Credits.
Explores coastal and offshore energy issues, including energy demand, present-day and innovative sources of energy to meet that demand, economics, policy, and environmental and human health outcomes of different energy sources. Summer session only; online and field trip hybrid course, with a mandatory 8-day field site component on the Outer Banks. Housing and field activities arranged by the instructor, which will carry a fee. Taught at off-campus field station.

Rules & Requirements
Grading Status: Letter grade.

ENEC 485. Coastal Resource Economics and Policy. 3-4 Credits.
This course develops and applies core principles essential to understanding and evaluating coastal environmental policy and renewable resource use. The principles include the economics of pollution, public choice, information and cost-benefit analysis, property rights, incentive-based regulation, and the economics of renewable resources. Includes insights from politics and ethics. Taught at off-campus field station.

Rules & Requirements
Requisites: Prerequisite, ECON 101.
Grading Status: Letter grade.

ENEC 489. Ecological Processes in Environmental Systems. 4 Credits.
Principles of analysis of the structure and function of ecosystems are applied to environmental phenomena. The link between the biosphere and other environmental compartments is explored through case studies of environmental issues. Three lecture hours and one laboratory hour a week. Taught at off-campus field station.

Rules & Requirements
Grading Status: Letter grade.

ENEC 490. Special Topics in Environmental Science and Studies. 1-12 Credits.
Advanced topics from diverse areas of environmental science and/or environmental studies are explored. Honors version available.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

ENEC 491. Effective Environmental Communication. 3 Credits.
Combines theory and application to explore effective communication in various environmental contexts and professions. Offers students from diverse disciplines tools to effectively and credibly communicate about environmental topics using a spectrum of strategies, and offers methods for effective thinking, writing, and speaking.

Rules & Requirements
Grading Status: Letter grade.

ENEC 492. Social Science Research Methods. 3 Credits.
Students learn quantitative, qualitative, and mixed methods research skills and their application to public policies and management of natural resources.

Rules & Requirements
Grading Status: Letter grade.

ENEC 493. Environmental Internship. 1-4 Credits.
Permission of the instructor. This course provides an internship with an organization related to environmental sciences or studies. Pass/Fail only.

Rules & Requirements
IDEAs in Action Gen Ed: HI-INTERN.
Repeat Rules: May be repeated for credit. 6 total credits. 6 total completions.
Grading Status: Pass/Fail.

ENEC 510. Policy Analysis of Global Climate Change. 3 Credits.
Provides a real-world and relevant case study in which to apply material from multiple disciplines including public policy, economics, environmental science, and international studies. Teaches techniques for building policy models not covered elsewhere.

Rules & Requirements
Grading Status: Letter grade.

ENEC 511. Stable Isotopes in the Environment. 3 Credits.
Introduction to the theory, methods, and applications of stable isotopes to environmental problems. Primary focus will be on the origin, natural abundance, and fractionation of carbon, hydrogen, oxygen, and nitrogen isotopes. Course previously offered as GEOL 511.

Rules & Requirements
Requisites: Prerequisite, CHEM 102.
Grading Status: Letter grade.
Same as: EMES 511.

ENEC 512. Advanced Coastal Environmental Change. 3 Credits.
This 3-credit seminar-style class for graduate students and advanced undergraduate students focuses on developing a deeper understanding of coastal environmental change as illuminated by the scientific literature, including topics such as climate change impacts; coupled human-natural coastal dynamics; feedbacks between biological and physical processes; carbon storage and flux; adaptive coastal management; and the role of science, policy and communication in coastal resilience. Course previously offered as ENEC 710/GEOL 710/MASC 730.

Rules & Requirements
Requisites: Prerequisite, EMES 303, 310, 410, 417, or 503; permission of the instructor for students lacking the prerequisite.
Repeat Rules: May be repeated for credit. 12 total credits. 4 total completions.
Grading Status: Letter grade.
Same as: EMES 512.

ENEC 514. Flood Hydrology: Models and Data Analysis. 3 Credits.
River floods are critically important in the global hydrologic cycle. While seasonal floods can be environmentally restorative, they can also have devastating socio-economic and public health consequences. Beginning with the hydrologic cycle, this course will cover concepts related to rainfall runoff and hydrologic response, flood frequency analysis, the mechanics of open channel flow, and overland and channel routing. Students will also gain experience working with real-world data and engineering software. Previously offered as GEOL 514.

Rules & Requirements
Requisites: Prerequisites, EMES 201, EMES 324, MATH 232, and PHYS 114 or 118; or permission of instructor for students missing prerequisites or graduate students.
Grading Status: Letter grade.
Same as: EMES 414.

ENEC 522. Environmental Change and Human Health. 3 Credits.
The course will provide students with a multidisciplinary perspective of environmental changes to encompass both human health and ecological health.

Rules & Requirements
Requisites: Prerequisite, ENEC 201 or 202.
Grading Status: Letter grade.
Same as: ENVR 522.

ENEC 530. Principles of Climate Modeling. 3 Credits.
Recommended preparation, MATH 383. Develops explanatory and predictive models of the earth's climate. The level is introductory and the emphasis is on modeling past climate with the hope of understanding its future.

Rules & Requirements
Requisites: Prerequisites, MATH 231, 232, and 233; PHYS 118 and 119.
Grading Status: Letter grade.

ENEC 540. Introduction to Risk Management and Insurance. 3 Credits.
Introduces the motivations, objectives, and principles of financial risk management through the lens of insurance, reinsurance and financial institutions. Students will become familiar with key concepts that shape these industries so they can effectively communicate using industry vocabulary, metrics, and tools. Standards governing financial risk management are introduced as are the different types of risks that financial institutions, insurers and reinsurers analyze when conducting business. Students will make use of software and tools to characterize and price risk in various activities, carry out basic quantitative risk assessments, and learn what drives success and failure in financial risk management.

Rules & Requirements
Requisites: Pre- or corequisite, Two or more of the following classes (or permission of the instructor): MATH 231, MATH 232, STOR 151, STOR 155, BIOS 511, BIOS 512, BIOS 600, ECON 400, BIOL/ENEC 562.
Grading Status: Letter grade.
Same as: DATA 540, ENVR 540.

ENEC 541. Natural Hazards and Financial Risk. 3 Credits.
Society's growing exposure to the financial risks associated with natural hazards (e.g., flood, drought, extreme temperatures) has made it increasingly important to both accurately quantify these risks and develop innovative strategies for managing them. This course provides exposure to the fundamentals of financial risk management with application to natural hazards an emphasis on developing coupled models that consider natural variability, engineered/managed structures and financial/economic factors. Students will learn to (i) model the financial risk posed by extreme events; (ii) understand the merits of various risk management tools; and (iii) develop effective strategies for managing natural hazard-based financial risk.

Rules & Requirements
Requisites: Pre- or corequisite, At least 2 of the following courses in mathematics or statistics (or permission of instructor): MATH 231, MATH 232, STOR 151, STOR 155, BIOS 511, BIOS 512, BIOS 600, ECON 400, BIOL/ENEC 562; some programming experience (COMP 110, COMP 116, or BIOS 511) helpful, but not required.
Grading Status: Letter grade.
Same as: DATA 541, ENVR 541.

ENEC 542. Insurance: Balancing Risk and Return. 1.5 Credits.
Students will develop a quantitative understanding of concepts underlying actuarial science, including discounted cash flows, net present value and the uncertainties related to liabilities/claims, inflation and interest/discount rates. Asset/premium investment strategies will also be covered, with an introduction to the properties of different asset classes, consideration of uncertainty, and methods by which assets can be assembled into portfolios that balance profitability with the risk. The course will develop students' analytical skills and awareness of the benefits and challenges of quantitative risk analysis, and they will analyze situations in which risk management failed and describe the underlying causes of failure.

Rules & Requirements
Requisites: Pre- or corequisite, At least 2 of the following courses in mathematics or statistics (or permission of instructor): MATH 231, MATH 232, STOR 151, STOR 155, BIOS 511, BIOS 512, BIOS 600, ECON 400, BIOL/ENEC 562; some programming experience (COMP 110, COMP 116, or BIOS 511) is helpful, but not required.
Grading Status: Letter grade.
Same as: DATA 542, ENVR 542.

ENEC 543. Risk, Data Science and AI. 3 Credits.
Students are introduced to advanced techniques in data sciences, machine learning, and artificial intelligence and their application to the management of financial risks. Students will learn to discover, process, and visualize natural hazard and financial data, and will be taught to quantify various financial risks (e.g., natural hazards) and design management strategies to mitigate negative outcomes. Students will learn basic programming methods and apply data analysis and machine learning techniques to model the complex systems that give rise to risk. Structured case studies and in-class assignments will help students build expertise to be used in longer group projects.

Rules & Requirements
Requisites: Pre- or corequisite, At least 2 of the following courses in mathematics or statistics (or permission of instructor): MATH 231, MATH 232, STOR 151, STOR 155, BIOS 511, BIOS 512, BIOS 600, ECON 400, BIOL/ENEC 562; some programming experience (COMP 110, COMP 116, or BIOS 511) is helpful, but not required.
Grading Status: Letter grade.
Same as: DATA 543, ENVR 543.

ENEC 547. Energy, Transportation, and Land Use. 3 Credits.
This course explores the reciprocal connections between energy (production/conversion, distribution, and use), land use, environment, and transportation. Evaluation of federal, state, and local policies on energy conservation and alternative energy sources are emphasized. Students gain skills to analyze impacts, interdependencies, and uncertainties of various energy conservation measures and production technologies.

Rules & Requirements
Grading Status: Letter grade.
Same as: PLAN 547.

ENEC 548. Sustainable Energy Systems. 3 Credits.
This course will provide an introduction to urgent topics related to energy, sustainability, and the environment. The course material will focus on new technologies, policies, and plans in cities and different governing bodies in the energy system with a focus on developing tools to analyze energy for its sustainability, impact on people, the environment, and the economy.

Rules & Requirements
Grading Status: Letter grade.
Same as: PLAN 548, ENVR 548.

ENEC 562. Statistics for Environmental Scientists. 4 Credits.
Introduction to the application of quantitative and statistical methods in environmental science, including environmental monitoring, assessment, threshold exceedance, risk assessment, and environmental decision making.

Rules & Requirements
Requisites: Prerequisites, BIOL 103 and BIOL 104, and either STOR 120 or STOR 155; or permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.
Same as: BIOL 562.

ENEC 563. Statistical Analysis in Ecology and Evolution. 4 Credits.
Application of modern statistical analysis and data modeling in ecological and evolutionary research. Emphasis is on computer-intensive methods and model-based approaches. Familiarity with standard parametic statistics is assumed.

Rules & Requirements
Requisites: Prerequisites, BIOL 103, BIOL 104, MATH 231, and either STOR 120 or STOR 155; or permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.
Same as: BIOL 563.

ENEC 565. Environmental Storytelling. 3 Credits.
An interdisciplinary course for students interested in environmental issues or journalism to produce stories about environmental issues that matter to North Carolinians. Students learn to identify credible sources, manage substantial amounts of information, and find story focus as they report on technical and often controversial subjects in a variety of media.

Rules & Requirements
Grading Status: Letter grade.
Same as: MEJO 565.

ENEC 567. Ecological Analyses and Application. 3 Credits.
This course provides an overview of natural and social science approaches to addressing biodiversity conservation and resource management. Concepts and methods from population biology, evolutionary ecology, community ecology, and conservation biology will be complemented with approaches from common property theory, indigenous resource management, and human evolutionary ecology.

Rules & Requirements
Grading Status: Letter grade.

ENEC 569. Current Issues in Ecology. 3 Credits.
Required preparation, previous course work in ecology. Permission of the instructor. Topics vary but focus on interdisciplinary problems facing humans and/or the environment. May be repeated for credit.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

ENEC 570. Uncertainty, Decisions, and the Environment. 3 Credits.
Required preparation, one course in probability and statistics. Use of quantitative tools for balancing conflicting priorities (such as costs versus human health protection) and evaluating uncertainties when making environmental decisions.

Rules & Requirements
Grading Status: Letter grade.
Same as: ENVR 570.

ENEC 580. Environmental Markets: Science and Economics. 3 Credits.
Examines the interplay of science and economics in the design of environmental markets. The first part introduces the principles of environmental economics. The second part considers several case studies that illustrate the critical role that scientific models of natural systems play in the design of environmental markets.

Rules & Requirements
Grading Status: Letter grade.

ENEC 581. Water Resource Planning and Policy Analysis. 3 Credits.
Water resources demand-supply relationships, United States water resource and related water quality policy, legal structure for water allocation, planning, project and program evaluation, and pricing. Strategies for coping with floods, droughts, and climate change will be explored. Extensive use of case studies.

Rules & Requirements
Grading Status: Letter grade.

ENEC 586. Water Quality Policies and Planning. 3 Credits.
Introduction to the management of water quality at the local and basinwide scales. Topics include theory and management frameworks; state and federal statutes and programs; water contaminants, their fate and transport; alternatives for improving and protecting water quality; and the technologies and management practices of selected basinwide comprehensive strategies.

Rules & Requirements
Requisites: Prerequisites, BIOL 101 and MATH 231.
Grading Status: Letter grade.

ENEC 593. Environmental Practicum. 1-3 Credits.
Permission of the instructor required. Students receive service-learning credit through active participation in a community, campus, or other approved group project.

Rules & Requirements
IDEAs in Action Gen Ed: HI-INTERN.
Repeat Rules: May be repeated for credit. 6 total credits. 6 total completions.
Grading Status: Letter grade.

ENEC 602. Professional Development Skills for Ecologists and Biologists. 3 Credits.
The goal of this course is to help students who intend to become professional ecologists or biologists acquire critical skills and strategies needed for achieving their career goals.

Rules & Requirements
Grading Status: Letter grade.
Same as: BIOL 602.

ENEC 608. Continuum Mechanics in the Earth Sciences. 3 Credits.
Applications of continuum mechanics in the earth sciences, including stress, strain, elasticity, and viscous flow. Numerical solutions to problems in heterogeneous finite strain including finite element analysis. Course previously offered as GEOL 608.

Rules & Requirements
Requisites: Prerequisites, EMES 302, and PHYS 114 or 118.
Grading Status: Letter grade.
Same as: EMES 608.

ENEC 635. Energy Modeling for Environment and Public Health. 3 Credits.
Recommended preparation, MATH 231. This course will equip students with an overview of contemporary issues in energy modeling and energy systems analysis, with a focus on environmental and public health impacts of energy systems. Students will gain exposure to a variety of research methodologies, analytical tools, and applications of energy modeling applied to environmental and public health related problems such as climate change, air pollution, and water footprints of energy systems.

Rules & Requirements
Grading Status: Letter grade.
Same as: ENVR 635, PLAN 635.

ENEC 641. Watershed Planning. 3 Credits.
This course explores the functions of ecosystems, land development activities that impact such functions, and the land use management tools to create strategies for mitigating and restoring environmental damage. Course goals include understanding the ecological context of planning and how ecological principles may inform planning decisions. Prepares planners to engage effectively with biologists, natural resource managers, park managers, and other professionals from the natural sciences.

Rules & Requirements
Grading Status: Letter grade.
Same as: PLAN 641.

ENEC 669. Seminar in Ecology. 1-3 Credits.
May be repeated for credit.

Rules & Requirements
Requisites: Prerequisite, BIOL 201 or BIOL 260; or permission of the instructor for students lacking the prerequisite.
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 12 total completions.
Grading Status: Letter grade.
Same as: BIOL 669.

ENEC 675. Environmental Communication and the Public Sphere. 3 Credits.
Examines communication practices that accompany citizen participation in environmental decisions, including public education campaigns of nonprofit organizations, "risk communication," media representations, and mediation in environmental disputes.

Rules & Requirements
Grading Status: Letter grade.

ENEC 685. Environmental and Resource Economics. 3 Credits.
Theory and methods of environmental economics. Topics covered include cost-benefit analysis and environmental policy analysis, economic concept of sustainability, optimal use of natural resources, nonmarket valuation, and economic instruments.

Rules & Requirements
Requisites: Prerequisite, ECON 310.
Grading Status: Letter grade.

ENEC 693H. Honors Research in Environmental Sciences and Studies. 3 Credits.
Permission of the director of undergraduate studies. First of two course sequence leading to the honors designation.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

ENEC 694H. Honors Project in Environmental Sciences and Studies. 3 Credits.
Permission of the director of undergraduate studies. Independent project leading to the honors designation. Includes weekly research seminar.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

ENEC 698. Capstone: Analysis and Solution of Environmental Problems. 3 Credits.
Interdisciplinary, team-based analyses of environmental phenomena are performed and applied to problems of the selection of effective environmental strategies. Students may select from a wide range of examples and venues.

Rules & Requirements
Grading Status: Letter grade.

Graduate-level Courses

ENEC 765. Field Experience in Ecology. 2 Credits.
Graduate standing in ecology required. Organized field work in remote environments with a faculty instructor as approved by student's supervisory committee. May be repeated for credit.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

ENEC 891. Special Topics in Ecology. 2-4 Credits.
Permission of the instructor. May be repeated for credit.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

ENEC 961. Research in Ecology. 1-15 Credits.
Acquaints early career graduate students with research techniques and assesses their propensity for research. Arranged by mutual agreement of the student and faculty member.

Rules & Requirements
Grading Status: Letter grade.

ENEC 992. Master's (Non-Thesis). 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

ENEC 993. Master's Research and Thesis. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

ENEC 994. Doctoral Research and Dissertation. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

Contact Information

Curriculum for the Environment and Ecology
Visit Program Website (http://www.cee.unc.edu)

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DEPARTMENT OF ENVIRONMENTAL SCIENCES AND ENGINEERING (GRAD)

The Department of Environmental Sciences and Engineering in the Gillings School of Global Public Health focuses on the interface between people and the environment. Uniquely situated in a school of public health, the department combines the physical sciences, health sciences, engineering, and policy to develop solutions to current and emerging environmental challenges. Our mission is promoting human and ecological health for all by identifying, understanding, and solving pressing environmental challenges. This multidisciplinary approach provides unique academic and research opportunities for students.

WE WORK TO

- Understand environmental transport and transformation of chemicals and infectious agents
- Elucidate mechanisms by which chemicals and infectious agents influence human health
- Mitigate the impacts of climate change on air, water, and health; and
- Protect vulnerable populations from toxic exposures.

Our faculty bring expertise in the physical and life sciences, engineering, and policy. We work both locally and globally, in occupational and environmental settings, on issues relevant to air quality, water, health, energy, and resource management. We aim to create a healthy and sustainable future for all.

The wide scope of departmental research is reflected in the three interdisciplinary fields of study, faculty's areas of research, and affiliated labs and research institutes. The three interdisciplinary fields of study are: Air Quality and Atmospheric Processes, Human Exposure and Health Effects, and Sustainable Water Resources.

Air Quality and Atmospheric Processes
Atmospheric processes have a major influence on air quality, as well as on long#term global processes. Over the past 30 years, major research contributions of our faculty and students include the generation of an experimental database used to develop and test photochemical mechanisms that contribute to air pollution; development of methods to measure and monitor airborne contaminants; work to understand air quality and health implications of energy policies, and the development and application of occupational exposure models.

Human Exposure and Health Effects
Our faculty study the range of processes that ultimately lead to environmentally related diseases, from characterizing and quantifying human exposure to understanding the cellular, molecular and biochemical underpinnings of these diseases. Major research activities include: developing methods to measure and monitor chemical or microbial contaminants; and elucidating the genetic and epigenetic factors that lead to differences in disease outcomes among individuals or populations.

Sustainable Water Resources
Population growth and economic development continue to place increasing stress on global water resources, stresses that stem primarily from rising consumptive demands for limited supplies and increasing contamination of natural waters. Our faculty seek solutions to these challenges using a variety of computational, experimental, and field approaches. Our research results improve engineering applications and provide substantive guidance to policymakers.

Our **research strengths** include:

- Characterizing exposures to contaminants in air, water, soil, and workplaces
- Developing engineering and policy solutions to reduce environmental risks
- Using molecular approaches to understand disease mechanisms caused by toxic substances in the environment
- Overcoming environmental health challenges in developing countries

Learn more (https://sph.unc.edu/envr/department-research/)

ESE Course Competencies Mapped

Each degree in our department is mapped to five degree-specific competencies that are taught and assessed in specific courses or other learning opportunities. Learn more (https://sph.unc.edu/ese-course-competencies/)

Resources for Current ESE Students

Current Environmental Sciences and Engineering (ESE) students can find department resources here (https://sph.unc.edu/envr/current-student-resources/).

Master of Science in Environmental Sciences and Engineering (M.S.)

The master of science (M.S.) in the Department of Environmental Sciences and Engineering prepares students who are interested in advanced education or careers in research, practice or management in the field of environmental sciences and engineering. Students perform research leading to a thesis and potentially publishable work.

Course Requirements

Code	Title	Hours
SPHG 600	Introduction to Public Health [1]	3
ENVR 400	Seminar Series	1
ENVR 601	Epidemiology for Environmental Scientists	3
Additional formal coursework (400 level or higher). Can include credits from Research skill course(s), if applicable (not including ENVR 400, 991, 993).		9
"Depth of knowledge in a discipline" approved by student and thesis Faculty Mentor (400 level or above)		9
Research		
ENVR 991	Research in Environmental Sciences and Engineering	3
Thesis/Substitute or Dissertation		
ENVR 993	Master's Research and Thesis	3
Minimum Hours [2]		**31**

[1] Students with a prior public health degree are not required to take SPHG 600; exemptions are available for those with non-public health degrees from accredited SPHs. Students should discuss with their Academic Coordinator.

[2] A minimum of 24 credits of graduate-level course work, which includes at least 15 credit hours of ENVR courses at the 400 level or above (to

be determined by the student and faculty mentor) and excludes ENVR 400, 991, and 993.

Milestones

- Master's Committee
- Thesis/Substitute Defense (Master's Comprehensive Exam)
- Master's Thesis Approved
- Residence Credit
- Exit Survey
- Master's Competency Review (mastery of one research skill)

Master of Science in Environmental Engineering (M.S.E.E.), Professional & Research Options

The master of science in environmental engineering (M.S.E.E.) in the Department of Environmental Sciences and Engineering is a program that gives students a Professional option (one year) or a Research option (two year) degree that provides students the vital skills and training needed to solve 21st century environmental engineering and public health challenges.

Course Requirements

Code	Title	Hours
SPHG 600	Introduction to Public Health [1]	3
ENVR 400	Seminar Series	1
ENVR 601	Epidemiology for Environmental Scientists	3
or EPID 600	Principles of Epidemiology for Public Health	
Additional formal coursework (400 level or higher). Can include credits from Research skill course(s), if applicable (not including ENVR 400, 991, 992).		9
Electives		
12 or more credits at 400 level or higher. See approved list of Engineering Elective Options below. [2]		12
Thesis/Substitute or Dissertation		
ENVR 992	Master's Technical Report [3]	3
Minimum Hours [4]		**31**

[1] Students with a prior public health degree are not required to take SPHG 600; exemptions are available for those with non-public health degrees from accredited SPHs. Students should discuss with their Academic Coordinator.

[2] An undergraduate or graduate course in Statistics, and one in Biological Sciences must be taken if such courses have not been taken in the past e.g., in another institution. These can count toward graduation credits if they are 400 level or above.

[3] Students completing the Professional option must specifically register for ENVR 992 **section 003** (ENVR 992.003) and associated Oral Comprehensive Exam and Technical Report. Students completing the Research option must specifically register under **their faculty mentor's** section of ENVR 992.

[4] A minimum of 24 credits of graduate-level course work, which includes at least 15 credit hours of ENVR courses at the 400 level or above (to be determined by the student and faculty mentor) and excludes ENVR 400, ENVR 991, and ENVR 993.

Engineering Elective Course Options

Code	Title	Hours
ENVR 416	Aerosol Physics and Chemistry	4
ENVR 451	Introduction to Environmental Modeling	3
ENVR 453	Groundwater Hydrology	3
ENVR 468	Temporal GIS and Space/Time Geostatistics for the Environment and Public Health	3
ENVR 500	Environmental Processes, Exposure, and Risk Assessment	3
ENVR 525	Water, Sanitation, Hygiene, and Global Health	3
ENVR 582	Sanitation for Development	3
ENVR 656	Physical/Chemical Processes for Water Treatment	3
ENVR 666	Numerical Methods	3
ENVR 671	Environmental Physics I	3
ENVR 672	Environmental Physics II	3
ENVR 675	Air Pollution, Chemistry, and Physics	3
ENVR 755	Analysis of Water Resource Systems	3
ENVR 759	Multiphase Transport Phenomena	3
ENVR 760	Uncertainty Quantification for Environmental Systems	3
ENVR 765	Space Time Exposure Mapping and Risk Assessment	3

Milestones

- Master's Committee
- Master's Oral Exam / Approved Exam Substitute
- Thesis / Substitute Defense
- Residence Credit
- Exit Survey

Public Health, Master's Program (M.P.H.) — Environment, Climate, and Health Concentration

Prospective students in the Environment, Climate and Health Concentration (https://sph.unc.edu/resource-pages/master-of-public-health/environment-climate-and-health-concentration/) understand that the health of the planet and the health of its people are inextricably linked. They aim to contribute innovative solutions to complex environment, climate, and health challenges: health challenges related to energy policy changes, safe drinking water, protection from infection where we work and play, economically feasible actions with co-benefits for public health and conservation of resources. If you wish to work towards creating a healthy environment as a public health professional, this Gillings MPH concentration is designed for you. The Environment, Climate and Health Concentration, housed in the Gillings School of Global Public Health and Department of Environmental Sciences and Engineering, will equip you with skills and know-how to identify and mitigate the adverse impacts of climate and environmental change on human health. Through a highly tailored curriculum and real-world experience, our students develop broadly applicable skills to address a range of exposure risks and sources. We welcome those interested in both local and global challenges.

UNC undergrads apply to the M.P.H.— Environment, Climate and Health concentration using a separate process:

- Current UNC seniors wishing to apply for an M.P.H. with an Environment, Climate and Health Concentration should submit a formal application to the program using this Graduate School link (http://go.unc.edu/UNCSeniorApplyMPHEHS/).
- Current UNC juniors should use this pre-admission application link (http://go.unc.edu/UNCJuniorApplyMPHEHS/).
- Details about ESE's Accelerated bachelor's-to-master's programs can be found here: https://sph.unc.edu/envr/bachelors-to-masters-programs/

Course Requirements

Requirements for the M.P.H. degree in the Environment, Climate and Health concentration.

Code	Title	Hours
M.P.H. Integrated Core		
SPHG 711	Data Analysis for Public Health	2
SPHG 712	Methods and Measures for Public Health Practice	2
SPHG 713	Systems Approaches to Understanding Public Health Issues	2
SPHG 701	Leading from the Inside-Out	2
SPHG 721	Public Health Solutions: Systems, Policy and Advocacy	2
SPHG 722	Developing, Implementing, and Evaluating Public Health Solutions (MPH Comprehensive Exam administered in class)	4
M.P.H. Practicum		
SPHG 703	MPH Pre-Practicum Assignments	0.5
SPHG 707	MPH Post-Practicum Assignments	0.5
M.P.H. Concentration		
ENVR 430	Health Effects of Environmental Agents	3
ENVR 500	Environmental Processes, Exposure, and Risk Assessment	3
ENVR 580	Policy Design for Environment, Climate, and Health	3
ENVR 775	Global Climate Change: Interdisciplinary Perspectives	1
Graduate-level ENVR Discipline Depth Course		2
Graduate-level ENVR Discipline Depth Course		3
M.P.H. Electives		
Electives (Graduate-level courses, 400+ level at Gillings, 500+ level at UNC)		9
M.P.H. Culminating Experience		
ENVR 992	Master's Technical Report	3
Minimum Hours		**42**

Admissions

Please visit Applying to the Gillings School (https://sph.unc.edu/students/how-to-apply/) first for details and information. Application to the residential M.P.H. is a 2-step process. Please apply separately to (1) SOPHAS and (2) UNC–Chapel Hill (via the Graduate School application link that will be sent after completing the SOPHAS application). Visit the Graduate School Web site (https://gradschool.sites.unc.edu/master-of-public-health/) for more details. If you are interested in the online M.P.H., please visit the MPH@UNC (https://onlinemph.unc.edu/) website and fill out an inquiry form.

Milestones

- Master's Committee
- Master's Written Examination/Approved Substitute (Comprehensive Exam)
- Thesis Substitute (Culminating Experience)
- Residence Credit
- Exit Survey
- Master's Professional Work Experience (Practicum)

Environmental Sciences and Engineering, Doctoral Program (Ph.D.)

The Ph.D., a terminal degree, is intended for incoming students with a strong background in the sciences or engineering and prepares them for careers in basic and applied research, education, or management in the field of environmental sciences and engineering. Applicants should have a strong background in the sciences, math or engineering with interest and aptitude for original and significant research; focused written statement should convey a motivation for research; strong academic record; strong letters of recommendation.

Course Requirements

Code	Title	Hours
Public Health Foundational Courses		
SPHG 600	Introduction to Public Health [1]	3
Core Courses		
ENVR 400	Seminar Series (Two semesters for 2 credits)	2
EPID 600	Principles of Epidemiology for Public Health	3
or ENVR 601	Epidemiology for Environmental Scientists	
ENVR 703	Proposal Writing for Environmental Research [2]	3
ENVR 704	Critical Analysis of Environmental Research (Must be taken twice, preferably during the first and second years.)	2
ENVR 991	Research in Environmental Sciences and Engineering [3]	6
Electives		
15 credits for "depth of knowledge in a discipline" (approved by candidate and committee).		15
Thesis/Substitute or Dissertation		
ENVR 994	Doctoral Research and Dissertation (Two semesters for 6 credits)	6
Minimum Hours		**40**

1. Students with a prior public health degree may be exempt from SPHG 600; this means a student may be excused from taking SPHG 600, but still needs to fulfill the associated 3 credit hour requirement. Exemptions are available for those with non-public health degrees from accredited SPHs. Students should discuss with their Academic Coordinator.
2. To be taken when student is ready to write dissertation proposal.
3. Students should register for ENVR 991 each semester they are doing research and may register for 1-9 total credit hours per semester.

Milestones

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 27) for more information.

- Doctoral Committee
- Doctoral Oral Comprehensive Exam
- Doctoral Written Exam
- Prospectus Oral Exam
- Advanced to Candidacy
- Dissertation Defense
- Doctoral Dissertation Approved/Format Accepted
- Residence Credit
- Exit Survey
- Doctoral Competency Review (Research Skills: PhD Competency 4)
- Doctoral Research Presentation (Research Presentation to ESE Audience PhD Competency 5)

Environmental Sciences and Engineering (ENVR)

Advanced Undergraduate and Graduate-level Courses

ENVR 400. Seminar Series. 1 Credits.
Presents relevant research to the Department of Environmental Sciences and Engineering. Topics and presenters are selected from among the departmental graduate students, faculty, and relevant external speakers. Student presenters learn how to present their research to a lay audience while students taking the class for credit learn how to critique a presentation as well as forge professional collaborations across disciplines. Permission of the instructor for undergraduate students.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 6 total completions.
Grading Status: Letter grade.

ENVR 403. Environmental Chemistry Processes. 3 Credits.
Required preparation, a background in chemistry and mathematics, including ordinary differential equations. Chemical processes occurring in natural and engineered systems: chemical cycles; transport and transformation processes of chemicals in air, water, and multimedia environments; chemical dynamics; thermodynamics; structure/activity relationships.

Rules & Requirements
Requisites: Pre- or corequisite, CHEM 261.
Grading Status: Letter grade.
Same as: ENEC 403, CHEM 403.

ENVR 404. Life Cycle Assessment: Energy and the Environment. 3 Credits.
A systems approach to dealing with environmental pollution problems is highlighted and Life Cycle Assessment (LCA) is introduced as an assessment tool. Topics include basic environmental interactions; biogeochemical cycles and environmental impacts (global, regional, and local); and application of LCA to waste management and energy conversion systems; are addressed.

Rules & Requirements
Grading Status: Letter grade.

ENVR 411. Laboratory Techniques and Field Measurements. 3 Credits.
Students learn laboratory, field, and analytical skills. Provides a solid introduction to experimental research in environmental sciences and engineering. Students are provided with applications in limnology, aquatic chemistry, and industrial hygiene.

Rules & Requirements
Grading Status: Letter grade.

ENVR 412. Ecological Microbiology. 3 Credits.
Required preparation, one course in general microbiology. A description of microbial populations and communities, the environmental processes they influence, and how they can be controlled to the benefit of humankind.

Rules & Requirements
Grading Status: Letter grade.

ENVR 413. Limnology. 3 Credits.
Required preparation, introductory biology, chemistry, and physics. Basic aspects of freshwater ecosystem function. Emphasis on trophic-level interactions and integration of physical, chemical, and biological principles for a holistic view of lake ecosystem dynamics.

Rules & Requirements
Grading Status: Letter grade.

ENVR 416. Aerosol Physics and Chemistry. 4 Credits.
Permission of the instructor for nonmajors. Physical and chemical principles underlying behavior of particles suspended in air. Topics include rectilinear and curvilinear motion of the particles in a force field, diffusion, evaporation, and condensation, electrical and optical properties, and particle coagulation. Three lecture hours a week and two laboratory sessions.

Rules & Requirements
Grading Status: Letter grade.

ENVR 417. Oceanography. 3 Credits.
Required preparation, major in a natural science or two courses in natural sciences. Studies origin of ocean basins, seawater chemistry and dynamics, biological communities, sedimentary record, and oceanographic history. Term paper. Students lacking science background should see EMES 103. Students may not receive credit for both EMES 103 and EMES 401. Course previously offered as GEOL 403/MASC 401.

Rules & Requirements
Grading Status: Letter grade.
Same as: EMES 401, BIOL 350.

ENVR 419. Chemical Equilibria in Natural Waters. 3 Credits.
Principles and applications of chemical equilibria to natural waters. Acid-base, solubility, complex formation, and redox reactions are discussed. This course uses a problem-solving approach to illustrate chemical speciation and environmental implications. Three lecture hours per week.

Rules & Requirements
Grading Status: Letter grade.

ENVR 421. Environmental Health Microbiology. 3 Credits.
Required preparation: introductory course in microbiology or permission of the instructor. This course covers microbes of public health importance in water, wastewater, and other environmental matrices, including detection, quantification, transport, and survival in environmental media; control measures to reduce exposures; quantitative microbial risk assessment; and the epidemiology of infectious diseases transmitted via the environment.

Rules & Requirements
Grading Status: Letter grade.

ENVR 423. Industrial Toxicology. 3 Credits.
Toxicological assessment of and a case presentation of related exposure is given. A conceptual approach is utilized to design appropriate programs to prevent worker ill health due to toxicant exposure.

Rules & Requirements
Requisites: Prerequisite, ENVR 430, or permission of the instructor.
Grading Status: Letter grade.

ENVR 425. Introduction to Health Physics: Radiation and Radiation Protection. 3 Credits.
This course concentrates on fundamentals of radiation and protection, including types of radiation, radioactive decay, interaction with matter, biological effects, detection and measurement, protection methods/techniques, external and internal dose, etc. Lectures include hazards in categories of environmental radiation, nuclear energy, medical applications, industrial uses, etc.

Rules & Requirements
Grading Status: Letter grade.

ENVR 430. Health Effects of Environmental Agents. 3 Credits.
Required preparation, basic biology, chemistry through organic, calculus. Permission of the instructor for students lacking this preparation. Interactions of environmental agents (chemicals, infectious organisms, radiation) with biological systems including humans, with attention to routes of entry, distribution, metabolism, elimination, and mechanisms of adverse effects. Three lecture hours per week.

Rules & Requirements
Grading Status: Letter grade.

ENVR 431. Techniques in Environmental Health Sciences. 2 Credits.
Required preparation, basic biology, chemistry through organic, math through calculus; permission of the instructor for students lacking this preparation. A practical introduction to the measurement of biological end-points, emphasizing adverse effects of environmental agents, using laboratory and field techniques. Two laboratory hours per week.

Rules & Requirements
Grading Status: Letter grade.

ENVR 432. Occupational Safety and Ergonomics. 3 Credits.
Fundamentals of occupational safety and ergonomics with emphasis on legislation and organization of industrial safety and ergonomic programs, including hazard recognition, analysis, control, and motivational factors pertaining to industrial accident and cumulative trauma disorder prevention.

Rules & Requirements
Grading Status: Letter grade.

ENVR 433. Health Hazards of Industrial Operation. 3 Credits.
An introduction to occupational hygiene and the health hazards associated with industrial operations. Fundamental scientific principles are used to provide the foundation for assessing and controlling the exposures found in the work environment. Topics with broad application include: noise, heat stress, and ventilation. Specific industrial operations examined include: welding, electroplating, and spray painting, among others. The concept of Total Worker Health is explored with a focus on the role of labor unions. No prerequisites.

Rules & Requirements
Grading Status: Letter grade.

ENVR 451. Introduction to Environmental Modeling. 3 Credits.
Focuses on how to model environmental transport and chemistry of pollutants. Covers mole balances, rate laws, chemical kinetics, and reactor design. Principles are applied to any environmental system where chemical transformations must be described. Three lecture hours per week.

Rules & Requirements
Grading Status: Letter grade.

ENVR 452. Fluid Dynamics. 3 Credits.
The physical properties of fluids, kinematics, governing equations, viscous incompressible flow, vorticity dynamics, boundary layers, irrotational incompressible flow. Course previously offered as GEOL 560/MASC 560.

Rules & Requirements
Requisites: Prerequisite, PHYS 401; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Same as: EMES 560, PHYS 660.

ENVR 453. Groundwater Hydrology. 3 Credits.
Required preparation, math through differential equations and some familiarity with fluid mechanics. Conservation principles for mass, momentum, and energy developed and applied to groundwater systems. Scope includes the movement of water, gas, and organic liquid phases, the transport and reaction of contaminants. Three lecture hours per week.

Rules & Requirements
Grading Status: Letter grade.

ENVR 468. Temporal GIS and Space/Time Geostatistics for the Environment and Public Health. 3 Credits.
Reviews geographical information systems (GIS). Covers geostatistics theory for the interpolation of environmental and health monitoring data across space and time. Uses publicly available water and air quality monitoring data to create maps used for environmental assessment, regulatory compliance analysis, exposure science, and risk analysis.

Rules & Requirements
Requisites: Prerequisite, MATH 232; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Same as: ENEC 468.

ENVR 470. Environmental Risk Assessment. 3 Credits.
Required preparation, one course in probability and statistics. Use of mathematical models and computer simulation tools to estimate the human health impacts of exposure to environmental pollutants. Three lecture hours per week.

Rules & Requirements
Grading Status: Letter grade.
Same as: ENEC 470.

ENVR 472. Quantitative Risk Assessment in Environmental Health Microbiology. 3 Credits.
Recommended preparation, microbiology, epidemiology, and infectious diseases. Survey of alternative approaches, frameworks, and decision-making tools for quantitative risk assessment of microbial pathogens that infect humans and cause disease by the exposure routes of water, food, air, and other vehicles.

Rules & Requirements
Grading Status: Letter grade.

ENVR 500. Environmental Processes, Exposure, and Risk Assessment. 3 Credits.
Environmental chemical and biological transport and transformation, exposure to environmental contaminants, and environmental risk assessment.

Rules & Requirements
Requisites: Prerequisite, CHEM 261.
Grading Status: Letter grade.

ENVR 505. Chemical Oceanography. 4 Credits.
Graduate students only; undergraduates must have permission of the instructor. Overview of chemical processes in the ocean. Topics include physical chemistry of seawater, major element cycles, hydrothermal vents, geochemical tracers, air-sea gas exchange, particle transport, sedimentary processes, and marine organic geochemistry. Three lecture and two recitation hours per week. Course previously offered as GEOL 505/MASC 505.

Rules & Requirements
Grading Status: Letter grade.
Same as: EMES 505.

ENVR 514. Measurement of NOx, O3, and Volatile Organic Compounds. 3 Credits.
This course is intended to develop a student's ability to operate the primary instruments for measuring these important pollutants, collect and process samples where necessary, record data, and process instrument data into final air concentration data.

Rules & Requirements
Grading Status: Letter grade.

ENVR 520. Biological Oceanography. 4 Credits.
For undergraduate (juniors and seniors) and graduate students. Marine ecosystem processes pertaining to the structure, function, and ecological interactions of biological communities; management of biological resources; taxonomy and natural history of pelagic and benthic marine organisms. Three lecture and recitation hours per week. One mandatory weekend field trip. Course previously offered as MASC 504.

Rules & Requirements
Grading Status: Letter grade.
Same as: EMES 507, BIOL 657.

ENVR 522. Environmental Change and Human Health. 3 Credits.
The course will provide students with a multidisciplinary perspective of environmental changes to encompass both human health and ecological health.

Rules & Requirements
Requisites: Prerequisite, ENEC 201 or 202.
Grading Status: Letter grade.
Same as: ENEC 522.

ENVR 525. Water, Sanitation, Hygiene, and Global Health. 3 Credits.
Builds on an understanding of infectious and toxic hazards, disease causation, and environmental transmission. Deals with hazard and disease classification; safety, risk, and vulnerability; interventions and their health impact; approaches in different settings; distal factors (e.g., water scarcity, climate change); and approaches to studying unsafe water, sanitation, and hygiene. Previously offered as ENVR 682.

Rules & Requirements
Grading Status: Letter grade.

ENVR 540. Introduction to Risk Management and Insurance. 3 Credits.
Introduces the motivations, objectives, and principles of financial risk management through the lens of insurance, reinsurance and financial institutions. Students will become familiar with key concepts that shape these industries so they can effectively communicate using industry vocabulary, metrics, and tools. Standards governing financial risk management are introduced as are the different types of risks that financial institutions, insurers and reinsurers analyze when conducting business. Students will make use of software and tools to characterize and price risk in various activities, carry out basic quantitative risk assessments, and learn what drives success and failure in financial risk management.

Rules & Requirements
Requisites: Pre- or corequisite, Two or more of the following classes (or permission of the instructor): MATH 231, MATH 232, STOR 151, STOR 155, BIOS 511, BIOS 512, BIOS 600, ECON 400, BIOL/ENEC 562.
Grading Status: Letter grade.
Same as: DATA 540, ENEC 540.

ENVR 541. Natural Hazards and Financial Risk. 3 Credits.
Society's growing exposure to the financial risks associated with natural hazards (e.g., flood, drought, extreme temperatures) has made it increasingly important to both accurately quantify these risks and develop innovative strategies for managing them. This course provides exposure to the fundamentals of financial risk management with application to natural hazards an emphasis on developing coupled models that consider natural variability, engineered/managed structures and financial/economic factors. Students will learn to (i) model the financial risk posed by extreme events; (ii) understand the merits of various risk management tools; and (iii) develop effective strategies for managing natural hazard-based financial risk.

Rules & Requirements
Requisites: Pre- or corequisite, At least 2 of the following courses in mathematics or statistics (or permission of instructor): MATH 231, MATH 232, STOR 151, STOR 155, BIOS 511, BIOS 512, BIOS 600, ECON 400, BIOL/ENEC 562; some programming experience (COMP 110, COMP 116, or BIOS 511) helpful, but not required.
Grading Status: Letter grade.
Same as: DATA 541, ENEC 541.

ENVR 542. Insurance: Balancing Risk and Return. 1.5 Credits.
Students will develop a quantitative understanding of concepts underlying actuarial science, including discounted cash flows, net present value and the uncertainties related to liabilities/claims, inflation and interest/discount rates. Asset/premium investment strategies will also be covered, with an introduction to the properties of different asset classes, consideration of uncertainty, and methods by which assets can be assembled into portfolios that balance profitability with the risk. The course will develop students' analytical skills and awareness of the benefits and challenges of quantitative risk analysis, and they will analyze situations in which risk management failed and describe the underlying causes of failure.

Rules & Requirements
Requisites: Pre- or corequisite, At least 2 of the following courses in mathematics or statistics (or permission of instructor): MATH 231, MATH 232, STOR 151, STOR 155, BIOS 511, BIOS 512, BIOS 600, ECON 400, BIOL/ENEC 562; some programming experience (COMP 110, COMP 116, or BIOS 511) is helpful, but not required.
Grading Status: Letter grade.
Same as: DATA 542, ENEC 542.

ENVR 543. Risk, Data Science and AI. 3 Credits.
Students are introduced to advanced techniques in data sciences, machine learning, and artificial intelligence and their application to the management of financial risks. Students will learn to discover, process, and visualize natural hazard and financial data, and will be taught to quantify various financial risks (e.g., natural hazards) and design management strategies to mitigate negative outcomes. Students will learn basic programming methods and apply data analysis and machine learning techniques to model the complex systems that give rise to risk. Structured case studies and in-class assignments will help students build expertise to be used in longer group projects.

Rules & Requirements
Requisites: Pre- or corequisite, At least 2 of the following courses in mathematics or statistics (or permission of instructor): MATH 231, MATH 232, STOR 151, STOR 155, BIOS 511, BIOS 512, BIOS 600, ECON 400, BIOL/ENEC 562; some programming experience (COMP 110, COMP 116, or BIOS 511) is helpful, but not required.
Grading Status: Letter grade.
Same as: DATA 543, ENEC 543.

ENVR 548. Sustainable Energy Systems. 3 Credits.
This course will provide an introduction to urgent topics related to energy, sustainability, and the environment. The course material will focus on new technologies, policies, and plans in cities and different governing bodies in the energy system with a focus on developing tools to analyze energy for its sustainability, impact on people, the environment, and the economy.

Rules & Requirements
Grading Status: Letter grade.
Same as: PLAN 548, ENEC 548.

ENVR 570. Uncertainty, Decisions, and the Environment. 3 Credits.
Required preparation, one course in probability and statistics. Use of quantitative tools for balancing conflicting priorities (such as costs versus human health protection) and evaluating uncertainties when making environmental decisions.

Rules & Requirements
Grading Status: Letter grade.
Same as: ENEC 570.

ENVR 575. Global Climate Change: Science, Impacts, Solutions. 3 Credits.
This class addresses the importance of climate change in its entirety. The first half of the course addresses climate science, followed by climate change impacts, energy and mitigation technologies, economics, and international politics. Improving communication and quantitative skills is emphasized through homework, in-class presentations, and a research paper.

Rules & Requirements
Grading Status: Letter grade.

ENVR 580. Policy Design for Environment, Climate, and Health. 3 Credits.
Students will be introduced to the types of policy instruments that can be used to solve environmental health problems. The course provides a framework for understanding the tasks involved, the main institutions responsible, and an in-depth description of the policy instruments used to tackle environmental health problems.

Rules & Requirements
Grading Status: Letter grade.

ENVR 582. Sanitation for Development. 3 Credits.
Over a million children die yearly from diarrhea, in part because 2.0 billion humans do not have access to a basic toilet. This course presents the problems and context of inadequate sanitation in the developing world, and, more importantly, the types of solutions and approaches available to reduce these problems.

Rules & Requirements
Grading Status: Letter grade.

ENVR 593. Undergraduate Practicum in Environmental Health Sciences. 3 Credits.
A practical experience in a setting relevant to environmental health.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

ENVR 600. Environmental Health. 3 Credits.
This course examines the relationship between environmental quality, human health and welfare, with particular attention to contamination in human environment; physical, biological, and social factors; trade-offs regarding prevention and remediation measures. Three lecture hours per week.

Rules & Requirements
Grading Status: Letter grade.

ENVR 601. Epidemiology for Environmental Scientists. 3 Credits.
An introduction to relevant epidemiologic concepts that inform environmental science research. Learning objectives include discussing basic epidemiologic concepts and measures of disease occurrence in populations, explaining epidemiological study designs for studying associations between risk factors or exposures in populations, evaluating epidemiologic evidence, and comprehending basic ethical principles.

Rules & Requirements
Grading Status: Letter grade.

ENVR 610. Global Perspectives on Environmental Health Inequalities. 3 Credits.
Students will learn about how social, economic, and political factors impact environmental health outcomes and will be introduced to theories and methods for incorporating social determinants frameworks into environmental health research, as well as the role of environmental justice movements.

Rules & Requirements
Grading Status: Letter grade.

ENVR 630. Systems Biology in Environmental Health. 3 Credits.
Required preparation, one year of biology. Environmental systems biology examines how environmental stressors influence the components of a biological system, and how the interactions between these components result in changes in the function and behavior of that system.

Rules & Requirements
Grading Status: Letter grade.

ENVR 635. Energy Modeling for Environment and Public Health. 3 Credits.
Recommended preparation, MATH 231. This course will equip students with an overview of contemporary issues in energy modeling and energy systems analysis, with a focus on environmental and public health impacts of energy systems. Students will gain exposure to a variety of research methodologies, analytical tools, and applications of energy modeling applied to environmental and public health related problems such as climate change, air pollution, and water footprints of energy systems.

Rules & Requirements
Grading Status: Letter grade.
Same as: ENEC 635, PLAN 635.

ENVR 640. Environmental Exposure Assessment. 3 Credits.
Permission of the instructor for nonmajors. The course material introduces the general concepts of assessing environmental exposures to chemicals in human populations. This includes the design of ecologic and personal monitoring studies, the techniques and equipment used for sampling and analysis, and interpretation of data.

Rules & Requirements
Grading Status: Letter grade.

ENVR 650. Principles of Chemical Carcinogenesis. 3 Credits.
Required preparation, organic chemistry. Bioactivation of carcinogens, interaction of activated metabolites with DNA, and their effects on DNA structure, replication, repair, and the control of these processes during development of chemically induced carcinogenesis.

Rules & Requirements
Grading Status: Letter grade.

ENVR 656. Physical/Chemical Processes for Water Treatment. 3 Credits.
Principles of disinfection, oxidation, coagulation, precipitation, sedimentation, filtration, adsorption, ion exchange, and membrane processes; applications to water and wastewater treatment. Three lecture hours per week. Previously offered as ENVR 756.

Rules & Requirements
Grading Status: Letter grade.

ENVR 661. Scientific Computation I. 3 Credits.
Requires some programming experience and basic numerical analysis. Error in computation, solutions of nonlinear equations, interpolation, approximation of functions, Fourier methods, numerical integration and differentiation, introduction to numerical solution of ODEs, Gaussian elimination.

Rules & Requirements
Grading Status: Letter grade.
Same as: MATH 661.

ENVR 662. Scientific Computation II. 3 Credits.
Theory and practical issues arising in linear algebra problems derived from physical applications, e.g., discretization of ODEs and PDEs. Linear systems, linear least squares, eigenvalue problems, singular value decomposition.

Rules & Requirements
Requisites: Prerequisite, MATH 661.
Grading Status: Letter grade.
Same as: MATH 662, COMP 662.

ENVR 666. Numerical Methods. 3 Credits.
Numerical methods for solving problems arising in sciences and engineering. Solution of linear equations using direct and iterative approaches, solution of nonlinear systems of algebraic equations, solution of ordinary differential equations including single and multistep methods, and methods for stiff systems of ODEs and collocation methods for linear and nonlinear PDEs.

Rules & Requirements
Requisites: Prerequisites, COMP 116 and MATH 383.
Grading Status: Letter grade.

ENVR 668. Methods of Applied Mathematics I. 3 Credits.
Requires an undergraduate course in differential equations. Contour integration, asymptotic expansions, steepest descent/stationary phase methods, special functions arising in physical applications, elliptic and theta functions, elementary bifurcation theory.

Rules & Requirements
Grading Status: Letter grade.
Same as: MATH 668.

ENVR 669. Methods of Applied Mathematics II. 3 Credits.
Perturbation methods for ODEs and PDEs, WKBJ method, averaging and modulation theory for linear and nonlinear wave equations, long-time asymptotics of Fourier integral representations of PDEs, Green's functions, dynamical systems tools.

Rules & Requirements
Requisites: Prerequisite, MATH 668.
Grading Status: Letter grade.
Same as: MATH 669.

ENVR 671. Environmental Physics I. 3 Credits.
A first graduate-level course in physical principles relevant to environmental systems. Topics include dimensional analysis, tensor calculus, conservation of mass and momentum. Applications are considered from natural and engineered systems and across all relevant media. Focus is on the development of mechanistic representation of environmental systems.

Rules & Requirements
Grading Status: Letter grade.

ENVR 672. Environmental Physics II. 3 Credits.
Second part of a graduate-level sequence in physical principles relevant to environmental systems. Topics include turbulence, conservation of energy, multiscale methods, and thermodynamics. Applications are considered from natural and engineered systems and across all relevant media. Focus is on development of mechanistic representation of environmental systems.

Rules & Requirements
Requisites: Prerequisite, ENVR 671.
Grading Status: Letter grade.

ENVR 673. Hydraulics for Environmental Engineering. 3 Credits.
Permission of the instructor for undergraduates. This course teaches practical basics of how to solve environmental engineering problems in the hydraulics of pipes, pumps, networks, and open channels. The course is a mix of classroom lectures, problem-solving sessions, and laboratory sessions.

Rules & Requirements
Requisites: Prerequisites, MATH 231 and PHYS 114.
Grading Status: Letter grade.

ENVR 675. Air Pollution, Chemistry, and Physics. 3 Credits.
This class is designed for graduate students planning for research in air pollution, emphasizing chemical kinetics and engineering approaches to problem solving in addition to atmospheric structure, meteorology, and modeling. We address problems of stratospheric and tropospheric ozone, particulate matter, and acid rain. We emphasize quantitative problem solving in homework.

Rules & Requirements
Grading Status: Letter grade.

ENVR 683. Water-Health Research I. 2 Credits.
Permission of the instructor for undergraduates and nonmajors. Introduces students to methods for research conception, design, planning, and implementation in fields related to water and its impacts on health. Students study approaches and tools that may be applied in water-related research and are coached in developing their own research design.

Rules & Requirements
Grading Status: Letter grade.

ENVR 684. Water-Health Research II. 2 Credits.
Permission of the instructor for undergraduates and nonmajors. Familiarizes students with the principles of scientific communication with an emphasis on scientific writing and oral presentations. Using their own water and health research, students learn how to communicate effectively in informal settings and how to prepare for interviews with the media.

Rules & Requirements
Grading Status: Letter grade.

ENVR 685. Water and Sanitation Planning and Policy in Less Developed Countries. 3 Credits.
Permission of the instructor. Seminar on policy and planning approaches for providing improved community water and sanitation services in developed countries. Topics include the choice of appropriate technology and level of service, pricing, metering, and connection charges; cost recovery and targeting subsidies to the poor; water venting; community participation in the management and operation of water systems; and rent-seeking behavior in the provision of water supplies.

Rules & Requirements
Grading Status: Letter grade.
Same as: PLAN 685.

ENVR 687. Writing for Journal Publication on Water and Sanitation Hygiene, Health, and Development. 2 Credits.
This course familiarizes students with scientific paper writing and coaches students towards journal manuscript submission. Students should have a data set of results. Sessions begin with student presentations and discussion, followed by a brief preparatory lecture on the next assignment. Substantive preparation is required between sessions.

Rules & Requirements
Grading Status: Letter grade.

ENVR 691H. Honors Research. 3 Credits.
Permission of the instructor. Directed readings or laboratory study of a selected topic. A written report is required in the form of an honors thesis (ENVR 692H).

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

ENVR 692H. Honors Thesis. 3 Credits.
Students complete honors research projects.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

ENVR 695. Undergraduate Research. 1-3 Credits.
Directed readings or laboratory study. Written reports are required. May be taken more than once for credit. Three to nine hours per week.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

ENVR 698. Senior Capstone Course. 3 Credits.
This capstone course covers a range of issues in public health ethics, particularly focused on environmental health. Students will work on a team-based project over the course of the semester. The projects will be focused on topics that have ethical relevance and will integrate students' knowledge in environmental health.

Rules & Requirements
Grading Status: Letter grade.

Graduate-level Courses

ENVR 701. Ecology of Aquatic Plants and Wetland Ecosystems. 3 Credits.
Adaptations of aquatic plants and microorganisms of land-water interface regions of lakes and rivers, their nutrition, growth, population dynamics, competition, herbivory, productivity, physiological control measures. Wetlands functions, values to humans. Three lecture hours per week.

Rules & Requirements
Requisites: Prerequisites, BIOL 101, CHEM 101, 102; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

ENVR 703. Proposal Writing for Environmental Research. 3 Credits.
This course is intended for PhD students to become familiar with the methods for writing a research proposal, grant application or response to a request for proposal/application (RFP/RFA). The course will provide orientation in conception, planning and implementation of writing a grant.

Rules & Requirements
Grading Status: Letter grade.

ENVR 704. Critical Analysis of Environmental Research. 1 Credits.
This 1 credit course is intended for PhD students. Students will learn how to conduct formal peer reviews for environmental health, science and engineering journals. In so doing, they will develop skills needed to critically evaluate environmental research.

Rules & Requirements
Repeat Rules: May be repeated for credit. 2 total credits. 2 total completions.
Grading Status: Letter grade.

ENVR 705. One Health: Philosophy to Practical Integration. 1-3 Credits.
This course explores the intersection of human, animal, and environmental health and facilitates the understanding of health as an inexorably linked system requiring multidisciplinary collaborative efforts. The One Health concept demonstrates the importance of a holistic approach to disease prevention and the maintenance of human, animal, and environmental health.

Rules & Requirements
Grading Status: Letter grade.
Same as: PUBH 705.

ENVR 707. Advanced Toxicology. 3 Credits.
Cellular and physiological basis of toxicity of environmental chemicals, with emphasis on inhalation toxicology, developmental toxicology, immunotoxicology, radiation toxicology, renal toxicology, and neurotoxicology. Three lecture hours per week.

Rules & Requirements
Requisites: Prerequisite, PHCO 702; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Same as: TOXC 707, PHCO 707.

ENVR 710. Environmental Process Biotechnology. 3 Credits.
Required preparation, a previous or concurrent course in microbiology. Theory and practice of biological processes used to remove contaminants from environmental media, including water, wastewater, soil, and air.

Rules & Requirements
Grading Status: Letter grade.

ENVR 722. Toxicology Seminar III. 1 Credits.
Presentations by outside invited speakers, local faculty, advanced graduate students, and postdoctoral trainees. Topics will cover all areas of research in toxicology. One hour per week.

Rules & Requirements
Grading Status: Letter grade.
Same as: TOXC 722.

ENVR 724. Current Topics in Environmental Analytical Chemistry. 1 Credits.
Students will select, critically review, and discuss current research papers for content, relevance, innovation, and clarity. Papers can be from any aspect of the environmental sciences. Two lecture hours per week, every other week.

Rules & Requirements
Grading Status: Letter grade.

ENVR 725. Environmental Physical-Organic Chemistry. 3 Credits.
The physical chemistry of the partitioning, exchange, and chemical transformation of organic contaminants in the water, air, and soil environments.

Rules & Requirements
Grading Status: Letter grade.

ENVR 726. Instrumental Methods for the Chemical Analysis of Environmental Samples. 3 Credits.
Required preparation, basic or general chemistry. Emphasis on acquiring laboratory skills and hands-on experience with instrumentation including chromatography and mass spectrometry; sample handling and preparation; quality assurance and control. Three lecture hours or one lecture hour and four laboratory hours per week.

Rules & Requirements
Grading Status: Letter grade.

ENVR 730. Computational Toxicology and Exposure Science. 3 Credits.
This course provides an introduction to the field of computational toxicology and exposure science. Students will be equipped to understand databases and tools that can more efficiently evaluate chemical-biological and chemical-disease relationships. Students will be expected to use excel and R/Rstudio, and run script that is provided by the instructor as a gentle 'welcome' to the coding environment. The course is designed for students in public health, toxicology, exposure science, epidemiology, and related disciplines.

Rules & Requirements
Requisites: Prerequisites, Basic knowledge of environmental science, chemistry, and biology is required, familiarity with excel and basic data software, and students are required to be willing to run R/Rstudio and other example coding packages, with script largely already provided for.
Grading Status: Letter grade.

ENVR 732. Health Effects of Outdoor and Indoor Air Pollution. 3 Credits.
Required preparation, knowledge of basic human physiology and biochemistry helpful. Assessing health effects of air pollutants on normal and diseased human populations, including children. Physiology, cellular and molecular biology, immunology, genetics, dosimetry will be integrated. Three lecture hours per week.

Rules & Requirements
Grading Status: Letter grade.

ENVR 742. Theory and Practice of Evaluating Human Health Risks of Chemicals. 2 Credits.
ENVR/TOXC 707 and ENVR 470 are highly recommended. This course will provide students who already have good knowledge of the basic principles of toxicology and environmental health with real-life examples of how the information is integrated for the purpose of judging what chemical exposures may pose risk to human health.

Rules & Requirements
Requisites: Prerequisites, ENVR/TOXC/BIOC 442 or ENVR 430.
Grading Status: Letter grade.

ENVR 749. Biochemical Toxicology. 3 Credits.
Required preparation, one course in biochemistry. Biochemical actions of toxicants and assessment of cellular damage by biochemical measurements. Three lecture hours per week.

Rules & Requirements
Requisites: Prerequisite, CHEM 430; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.
Same as: BIOC 749, TOXC 749.

ENVR 753. Programming for Environmental Applications. 1 Credits.
A one-credit course designed to give new graduate students the tools to apply the Python programming language to their own research and work. The course covers introductory material including the variable types and data structures and progresses to more advanced capabilities, such as regression analysis and optimization. The course is heavily focused on bi-/weekly assignments meant to reinforce the lectures and highlights basic applications in environmental science. Companion course to ENVR 755.

Rules & Requirements
Requisites: Corequisite, ENVR 755.
Grading Status: Letter grade.

ENVR 754. Air Pollution Control. 3 Credits.
Engineering control of air pollution control systems and discussion of air pollution regulation and standards. Spring. (Odd-numbered years.)

Rules & Requirements
Grading Status: Letter grade.

ENVR 755. Analysis of Water Resource Systems. 3 Credits.
Permission of the instructor for nonmajors. Use of mathematical models to design and evaluate regional water supply and treatment systems. Engineering and economic methods are incorporated into quantitative analyses of regional scenarios. Social and political aspects also discussed. Three lecture hours per week.

Rules & Requirements
Grading Status: Letter grade.

ENVR 757. Water and Wastewater Treatment Plant Design. 3 Credits.
The application of the theory of water and wastewater treatment to the design of municipal facilities. The course includes the principles of design and modern design practices. Design and analysis of design of specific works for water and wastewater treatment.

Rules & Requirements
Requisites: Prerequisites, ENVR 710 and 756.
Grading Status: Letter grade.

ENVR 758. Environmental Engineering Project. 3 Credits.
Permission of the instructor. Ad hoc project designed for a student team in addressing a current problem in environmental engineering. Projects may include laboratory or pilot-scale studies, collection and analysis of data from full-scale systems, or comprehensive analysis of relevant problems in environmental engineering practice. Three lecture hours per week.

Rules & Requirements
Grading Status: Letter grade.

ENVR 759. Multiphase Transport Phenomena. 3 Credits.
Continuum mechanical approach to formulating mass, momentum, energy, and entropy equations to describe multiphase transport phenomena. Three lecture hours per week.

Rules & Requirements
Requisites: Prerequisite, ENVR 453.
Grading Status: Letter grade.

ENVR 760. Uncertainty Quantification for Environmental Systems. 3 Credits.
Quantitative assessment of how uncertainty in mechanistic models (subsurface, ocean, atmosphere, global climate), parameters, and auxiliary conditions of a model is manifest in uncertainty in model predictions. Topics include: model formulations, statistical tools, Monte Carlo methods, moment methods, estimation methods, statistical simulation methods, reduced order models, and data assimilation approaches.

Rules & Requirements
Grading Status: Letter grade.

ENVR 761. Numerical ODE/PDE, I. 3 Credits.
Single, multistep methods for ODEs: stability regions, the root condition; stiff systems, backward difference formulas; two-point BVPs; stability theory; finite difference methods for linear advection diffusion equations.

Rules & Requirements
Requisites: Prerequisites, MATH 661 and 662.
Grading Status: Letter grade.
Same as: MATH 761, MASC 781.

ENVR 762. Numerical ODE/PDE, II. 3 Credits.
Elliptic equation methods (finite differences, elements, integral equations); hyperbolic conservation law methods (Lax-Fiedrich, characteristics, entropy condition, shock tracking/capturing); spectral, pseudo-spectral methods; particle methods, fast summation, fast multipole/vortex methods.

Rules & Requirements
Requisites: Prerequisite, MATH 761.
Grading Status: Letter grade.
Same as: MATH 762, EMES 782.

ENVR 763. Mathematical Modeling I. 3 Credits.
Nondimensionalization and identification of leading order physical effects with respect to relevant scales and phenomena; derivation of classical models of fluid mechanics (lubrication, slender filament, thin films, Stokes flow); derivation of weakly nonlinear envelope equations. Fall.

Rules & Requirements
Requisites: Prerequisites, MATH 661, 662, 668, and 669.
Grading Status: Letter grade.
Same as: MATH 768, MASC 783.

ENVR 764. Mathematical Modeling II. 3 Credits.
Current models in science and technology: topics ranging from material science applications (e.g., flow of polymers and LCPs); geophysical applications (e.g., ocean circulation, quasi-geostrophic models, atmospheric vortices).

Rules & Requirements
Requisites: Prerequisites, MATH 661, 662, 668, and 669.
Grading Status: Letter grade.
Same as: MATH 769, EMES 784.

ENVR 765. Space Time Exposure Mapping and Risk Assessment. 3 Credits.
Theory and MATLAB numerical implementation of linear geostatistics (simple/ordinary/universal kriging) and modern geostatistics (Bayesian Maximum Entropy) to map environmental and health processes varying across space and time. Applications in exposure assessment, environmental epidemiology, medical geography, and risk assessment.

Rules & Requirements
Grading Status: Letter grade.

ENVR 766. Stochastic Environmental Health Modeling. 3 Credits.
Required preparation, statistics. A holistic/stochastic perspective, spatiotemporal random field modeling of environmental exposure and biological variabilities. Uncertainty in environmental exposure. Biomarkers and population damage indicators for epidemiological analysis. Cell-based stochastic differential equations. Three lecture hours per week.

Rules & Requirements
Grading Status: Letter grade.

ENVR 767. Modeling for Environmental Risk Analysis. 3 Credits.
Mathematical methods for development of advanced models in environmental risk assessment, including exposure assessment and exposure-response assessment, are developed and applied. Three lecture hours per week.

Rules & Requirements
Requisites: Prerequisite, ENVR 470.
Grading Status: Letter grade.

ENVR 768. Microenvironmental Air Flow Modeling. 3 Credits.
Required preparation, fluid mechanics. Permission of the instructor. Applications of finite element and vortex methods for modeling air flows of significance in industrial hygiene applications. Three lecture hours per week.

Rules & Requirements
Grading Status: Letter grade.

ENVR 769. Quantitative Methods for Exposure Science. 3 Credits.
SAS regression and statistics, two ENVR courses (e.g. 430, 470, 707, 740, 770, 890), or permission of the instructor. Mathematical approaches for assessing environmental and/or occupational exposures to chemicals in human populations using stochastic (group) statistics, regression analysis and modeling, and pharmacokinetic modeling; focus on human biomarker data.

Rules & Requirements
Requisites: Prerequisite, BIOS 511.
Grading Status: Letter grade.

ENVR 770. Biological Monitoring. 3 Credits.
This course provides both practical and theoretical information on biological monitoring of chemical exposures and how to evaluate and interpret exposure data. Three lecture hours per week and a term paper (three credit hours).

Rules & Requirements
Requisites: Prerequisite, ENVR 430.
Grading Status: Letter grade.

ENVR 771. Exposure Analysis. 3 Credits.
This course is intended for students interested in research involving exposure to environmental contaminants. The course focuses on the integration of engineering principles, with statistical tools to enhance inference. Statistical models based on the Johnson system of distributions are explored for the analysis data including exposure-biomarker relationships.

Rules & Requirements
Grading Status: Letter grade.

ENVR 773. Modeling Atmospheric Chemistry. 3 Credits.
Air pollution is formed through thousands of chemical reactions. Computer models are used to simulate this complex chemistry and used to make policy. Current computational restraints force a simplified representation of atmospheric chemistry in these models, and the focus of this course is the implications of this on predictions.

Rules & Requirements
Grading Status: Letter grade.

ENVR 775. Global Climate Change: Interdisciplinary Perspectives. 1 Credits.
This class addresses the complexity and importance of global climate change from several disciplines. A top expert will lecture each week, addressing these themes: the science of human influences on climate; impacts and adaptation; global energy and technology; communication; and economics and international solutions.

Rules & Requirements
Grading Status: Letter grade.

ENVR 777. Air Quality and Atmospheric Sciences Seminar. 1 Credits.
This course gives students practice organizing a scientific presentation and speaking in front of an audience and promoting interdisciplinary interaction. Students will research topics and organize presentations for faculty and other students. The topics may be any aspect of air quality and atmospheric sciences.

Rules & Requirements
Repeat Rules: May be repeated for credit. 3 total credits. 3 total completions.
Grading Status: Letter grade.

ENVR 779. Project Management and Implementation. 3 Credits.
This course presents program/project management and implementation concepts, tools and methods applicable to global public health projects. Students will learn and practice the skills necessary to successfully plan, implement and evaluate a project including how to organize and lead successful project teams in complex environments. This course is designed to give students the skills to successfully develop, engage and support global public health projects.

Rules & Requirements
Grading Status: Letter grade.

ENVR 780. Urban Water Services Planning and Design. 3 Credits.
This course helps students learn and apply principles of water supply sewerage and drainage planning and design, work collaboratively on real-world problems with insufficient data, and present technical findings in a clear and convincing way.

Rules & Requirements
Requisites: Prerequisite, ENVR 673; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

ENVR 781. Water Resources Planning and Policy Analysis. 3 Credits.
Water resources planning and management. Federal and state water resources policies. Analytical skills to identify environmental problems associated with urban water resources development.

Rules & Requirements
Grading Status: Letter grade.
Same as: PLAN 781.

ENVR 782. Occupational Health Nursing II: Occupational Health Programming. 3 Credits.
Continuation of ENVR 791. Role components of occupational health nursing with emphasis on designing, implementing, and evaluating occupational health programs. Emphasis on analysis of factors influencing the delivery of health care at the worksite.

Rules & Requirements
Requisites: Prerequisite, ENVR 791; Permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

ENVR 783. Setting Environmental Priorities. 3 Credits.
This course is intended to develop a student's ability to estimate the relative merits of research and policy actions in several broad environmental areas, with attention to the associated uncertainty. Criteria to be included are both quantitative and qualitative, with an emphasis on public health, environmental, and economic metrics.

Rules & Requirements
Grading Status: Letter grade.

ENVR 784. Community-Driven Research and Environmental Justice. 3 Credits.
In this course, students will learn from community residents who challenge public health scientists to conduct research on environmental and occupational hazards that impact their health.

Rules & Requirements
Grading Status: Letter grade.

ENVR 785. Public Investment Theory. 3 Credits.
Basic theory, process, and techniques of public investment planning and decision making, involving synthesis of economic, political, and technologic aspects. Theory underlying benefit-cost analysis, adaptation to a descriptive and normative model for planning public projects and programs.

Rules & Requirements
Requisites: Prerequisite, PLAN 710.
Grading Status: Letter grade.
Same as: PLAN 785.

ENVR 786. Environmental Quality Management. 3 Credits.
Planning and analysis of regional environmental system with a focus on management of mass flows that affect the quality of the regional environment.

Rules & Requirements
Grading Status: Letter grade.
Same as: PLAN 786.

ENVR 787. Applied Environmental Finance: How to Pay for Environmental Services. 3 Credits.
How can governments, communities, organizations, and businesses fund environmental services? This applied course reviews the diverse tools and strategies that environmental service providers use to pay for programs. The course will focus on environmental services related to: drinking water, wastewater, storm-water, watershed protection, energy efficiency, renewable energy, sustainability, and wetlands.

Rules & Requirements
Grading Status: Letter grade.
Same as: PUBA 787, PLAN 787.

ENVR 788. Managing Environmental Financial Risk. 3 Credits.
As society's exposure to environmental risks grows, it has become increasingly important to find innovative tools for mitigating these risks. This course is designed to introduce students to the fundamentals of financial risk management within an environmental context, with an emphasis on developing coupled environmental-financial systems models.

Rules & Requirements
Grading Status: Letter grade.

ENVR 789. International Field Research. 2 Credits.
Course offers theoretical foundations in cultural sensitivity, personal security, communication, organization and research along with guided practical exercises in conducting international field research. The result is the development of cross-cultural and applied research skills that prepare the student to conduct successful field research.

Rules & Requirements
Grading Status: Letter grade.

ENVR 791. Occupational Health Nursing I: Occupational Health Assessment. 3 Credits.
Occupational Health Nursing I: Occupational Health Assessment.

Rules & Requirements
Grading Status: Letter grade.

ENVR 793. Writing Scientific Papers for WaSH Peer-Reviewed Journal Publication. 2 Credits.
A two-credit, fall course open to graduate students with a complete data set with results to communicate to other scientists as a scientific paper or manuscript submission to peer-reviewed journals on an aspect of water and health. Undergraduate honors students admissible at discretion of the instructor.

Rules & Requirements
Grading Status: Letter grade.

ENVR 795. Critical issues in work, worker and workplace health. 3 Credits.
This course prepares students to contribute as members of an interdisciplinary team to protect and promote workers' health. Students will learn that work is a social determinant of health and explore the context in which worker health protection/promotion practitioners work. Students will be able to summarize key regulations and policies that impact work and worker health.

Rules & Requirements
Grading Status: Letter grade.
Same as: HBEH 785.

ENVR 797. Fundamentals of Industrial Hygiene. 3 Credits.
Provides broad understanding of industrial hygiene. Major emphasis is recognition of hazards in the workplace, evaluation of measurement of those hazards, and application of control strategies. The course will focus on introductory level industrial hygiene concepts associated with the anticipation, recognition, evaluation, control, and confirmation of control of occupational health hazards.

Rules & Requirements
Grading Status: Letter grade.

ENVR 850. Systems Analysis in Environmental Planning. 3 Credits.
Required preparation, calculus. Applications of systems analysis techniques to the management of environmental quality.

Rules & Requirements
Grading Status: Letter grade.

ENVR 890. Problems in Environmental Sciences and Engineering. 1-21 Credits.
For students who wish to undertake individual or special topics study of a specific problem in environmental sciences and engineering. The subject and requirements of the project are arranged with the faculty in each individual instance. One or more hours per week. Permission of the department.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

ENVR 981. Environmental Sciences Practicum. 1-9 Credits.
A practical experience in public health/environmental health sciences.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

ENVR 989. Environmental Crisis Management. 3 Credits.
This course will focus on practical solutions to public health related disasters where students extend, critique, and apply knowledge gained in the classroom. This experience-based course will have flexibility to allow for substantive contributions from students of all backgrounds enrolled in the Gillings School of Global Public Health.

Rules & Requirements
Grading Status: Letter grade.

ENVR 990. Environmental Engineering Brief. 1.5-3 Credits.
Students in ENVR 990 will work in concert with their advisor to identify and define an engineering problem, describe a solution to the problem, and develop a plan for implementation. These briefs serve as a foundation for the student's master's technical report.

Rules & Requirements
Repeat Rules: May be repeated for credit. 15 total credits. 5 total completions.
Grading Status: Letter grade.

ENVR 991. Research in Environmental Sciences and Engineering. 1-9 Credits.
Consultation with the faculty and approval of subject and proposed program required. Permission of the instructor. May be repeated. Hours and credits to be arranged.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

ENVR 992. Master's Technical Report. 3 Credits.
The technical report requirement for M.S.P.H., M.P.H., and M.S.E.E. candidates is satisfied by the extensive study of a problem in environmental sciences and engineering.

Rules & Requirements
Repeat Rules: May be repeated for credit.

ENVR 993. Master's Research and Thesis. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

ENVR 994. Doctoral Research and Dissertation. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

Following the faculty member's name is a section number that students should use when registering for independent studies, reading, research, and thesis and dissertation courses with that particular professor.

Professors

Joe Brown (137), Water and Sanitation, Environmental Health Microbiology; Director, Water Institute (Interim); Director, Engineering Programs
Gregory W. Characklis (98), Water Resources Engineering, Economics and Management; Director, Institute for Risk Management and Insurance Innovations
Orlando Coronell (10), Physical and Chemical Processes for Water Treatment, Membrane Technology, Granular Sorbents; Associate Chair for Academics
Rebecca C. Fry (7), Toxicogenomics, Epigenetics, Genetics, Toxicology; Director, Institute for Environmental Health Solutions; Director, Institute for Environmental Health Solutions; Department Chair
Avram Gold (43), Environmental Chemistry
Kun Lu (37), Microbiome, Exposome, Omics Profiling (Metabolomics, Proteomics, Lipidomics), DNA Adducts, Biomarker Development, Cancer, Chronic Inflammation, Children's Health
Richard A. Luettich Jr. (68), Marine Sciences, Coastal Physics, Hurricane Storm Surge Modeling; Director, Institute of Marine Science
Christopher S. Martens (92), Marine Sciences, Biogeochemistry
Cass T. Miller (59), Porous Medium Systems, Environmental Physics, Environmental Modeling

Rachel T. Noble (110), Marine Microbial Ecology, Water Quality Microbiology, Non-Point Source (e.g., Storm water), Contamination of Receiving Waters
Leena A. Nylander-French (95), Skin and Inhalation Exposures to Toxicants, Exposure Modeling; Director, Occupational Safety and Health Education and Research Center
Hans W. Paerl (65), Aquatic Microbial Ecology, Marine and Freshwater Nutrient Cycling
Michael C. Piehler (33), Marine Environmental Sciences, Environmental Microbial Ecology
Jason Surratt (30), Atmospheric Chemistry, Secondary Organic Aerosols, Heterogeneous Chemistry, Air Pollution
Barbara J. Turpin (32), Atmospheric Chemistry, Air Pollution and Human Exposure; Director, Graduate Studies
William Vizuete (6), Atmospheric Modeling, Air Pollution, Environmental Engineering, Atmospheric Chemistry
Paul B. Watkins, Drug Safety Sciences, Pharmacotherapy and Experimental Therapeutics, Genomics Technologies
J. Jason West (16), Air Pollution, Climate Change, Atmospheric Modeling, Global Health, Environmental Policy, Environmental Engineering
Dale Whittington (70), Water Resources Economics, International Development

Associate Professors

Julia Rager (130), Environmental Risk Assessment, Exposure Assessment, Genetics, Toxicology; Associate Chair for Strategic Initiatives
Marc L. Serre (100), Space/Time Statistics, Exposure Assessment, Environmental Modeling, Hydrology, Geostatistics, GIS, Environmental Epidemiology, Risk Assessment, Medical Geography

Assistant Professors

Noah Kittner (131), Energy Systems Analysis, Sustainability Science, Energy and Environmental Policy, Energy in Underserved communities
Musa Manga (5), Environmental Engineering, Water, Sanitation, Water Resource Management

Research Professors

Bill Gray, Hydrology, Porous Media Flow, Environmental Thermodynamics
Glenn Morrison (124), Indoor Air, Surface Chemistry, Human Exposure
Mark D. Sobsey, Environmental Health Microbiology, Virology, Water, Sanitation and Hygiene

Research Associate Professor

Zhenfa Zhang, Synthetic Organic Chemistry

Research Assistant Professors

Ryan Cronk (11), Global Water, Sanitation and Hygiene (WaSH), Environmental Risk Assessment
Michael Fisher (136), Global Water, Sanitation and Hygiene (WaSH)
Megan Lott, Environmental Microbiology, Microbes of the Built Environment and Wastewater-based Epidemiology
Timothy Weigand (108), Fluid Dynamics, AI/Machine Learning, Mechanistic Modelling, Computational Science

Teaching Associate Professors

Amanda Northcross (134), Exposure Assessment, Air Pollution, Global Health; Director, Undergraduate Studies (B.S.P.H. and Assured Enrollment Programs)
John Staley (135), Occupational Health and Safety; NC OSHERC; NIOSH Center for Excellence: the Carolina Center for Healthy Work Design and Worker Well-being

Clinical Associate Professor

Courtney Woods (51), Health Equity, Systems Modeling, Environmental Epidemiology, Risk Assessment, Global Health; Director, E.C.H. M.P.H. Program

Adjunct Professors

Sarav Arunachalam, Air Quality Modeling, Analyses, and Health Risk; Environmental Policy
Stephen Bennett, Natural Hazards Risk Modeling, Climate Risks for Reinsurance Underwriting, Extreme Weather and Climate Preparation and Response
Linda S. Birnbaum, Xenobiotic Metabolism, Biochemical Toxicology
Clarissa Brocklehurst, Water Supply and Sanitation
Daniel L. Costa, Pulmonary Toxicology
Felix Dodds, Sustainable Development, Finance, Climate, Environmental Security
Jonathan Freedman, Toxicology, Chemical Exposure, Risk Assessment
Shabbir H. Gheewala, Life Cycle Assessment
Jackie MacDonald Gibson, Water Quality, Environmental Justice, Risk Assessment
M. Ian Gilmour, Immunotoxicology
Marc Jeuland, Sustainability, Climate Resilience, Water and Health, Environmental Health Cost-benefit Anaylsis
Valeria Ochoa-Herrera, Biological and Physico-Chemical Wastewater Treatment, Bioremediation, Biotechnology, Sustainability
Stephanie Padilla, Biomolecular and Computational Toxicology
David Peden, Immunotoxicology, Cardiopulmonary Toxicology, Translational and Clinical Research in Environmental Lung Disease
Joseph Pinto, Atmospheric Modeling
Joachim Pleil, Exposure Assessment
Havala Pye, Air Quality Modeling
Ana Rappold, Environmental Exposure Assessment, Climate Change, Wildfires and Air Quality
Jacky Rosati Rowe, Exposure Assessment
Aaron Salzberg, Water Supply Planning and Sanitation; Director, Water Institute
ManishKumar Shrivastava, Atmospheric Chemistry, Secondary Organic Aerosols, Earth Systems Modeling, Climate and Health Impacts
James M. Samet (67), Mechanistic Toxicology, Cardiopulmonary Toxicology, Ambient Air Pollutants
Jill R. Stewart (26), Water Quality Microbiology, Ecological Assessment and Prediction
Miroslav Styblo (79), Nutritional Biochemistry and Biochemical Toxicology
Bill Suk, Hazardous Substances Remediation, Environmental Toxicology, Children's Environmental Health
Cecilia Tan, Mechanisms of Environmental Exposure and Disease, Physiologically-based Pharmacokinetic (PBPK) Modeling
John Tomaro, Research Collaborator for the Water Institute

Adjunct Associate Professors

Bok Haeng (B.H.) Baek, Atmospheric Chemistry and Emission Models, Emissions Trends, Air Pollution Control Response
Karsten Baumann, Aerosol Chemistry
Jared Bowden, Air Quality and Climate Modeling

Jada Brooks, Health Equity, Community Engaged Research, Environmental Justice
Kristin Isaacs, Human Exposure Modeling, Risk Assessment
Janice Lee, Human Health Risk Assessment, Susceptibility, Mode of Action, Systematic Review
Liz Naess, Ambient Air Quality Data Analysis, Science and Policy, Health Equity
Roger Sit, Radiation Physics
Thomas B. Starr, Risk Assessment
John Wambaugh, Computational Toxicology and Exposure

Adjunct Assistant Professors

Celeste Carberry, Toxicological Mechanisms and Health Effects of Environmental Exposures
Rich Cravener, Healthy, Safety and Industrial Hygiene; NC OSHERC; NIOSH
Radhika Dhingra (132), Air Pollution, Epidemiology, Epigenetics, Health Effects
Crystal Lee Pow Jackson, Occupational and Environmental Epidemiology
Jordan Kern, Environmental modeling, Systems Analysis, Financial Risk Management
Hannah Liberatore, Analytical Method Development for Per- and Polyfluoroalkyl Substances (PFAS) sampling and Combustion Ion Chromatography
Lucas Rocha Melogno, Environmental Health Science, Policy Translation
Javad Roostaei, Environmental Science, Machine Learning, Data Science, AI
Antonia Sebastian, Environmental Hazards, Flood Risk Reduction
Lauren Eaves Sellers, Environmental Exposure, Prenatal Health Effects, and Epigenetics
David Singleton, Environmental Microbiology
Frank J. Stillo, III, Risk Assessment, Risk Communication of Environmental Exposures in Drinking Water
W. Jon Wallace, Occupational Safety and Health Education

Professors Emeriti

Jamie Bartram
Russell F. Christman
Douglas Crawford-Brown
Francis A. DiGiano
Michael Flynn
Donald L. Fox
Harvey E. Jeffries
Pete Kolsky
Donald T. Lauria
David Leith
David H. Moreau
Mark S. Shuman
Stephen C. Whalen
Donald Willhoit

Clinical Professor Emeritus

Donald E. Francisco

Contact Information

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DEPARTMENT OF EPIDEMIOLOGY (GRAD)

The Department of Epidemiology, which is housed in the Gillings School of Global Public Health, is one of the world's leading academic departments in epidemiology. Renowned faculty members provide students with training in effective research practices and methods. The department conducts innovative research and provides classroom and real-world educational interdisciplinary opportunities that emphasize the integration of substantive area knowledge and cutting-edge epidemiologic methods. It also works with students to apply their epidemiology research to a variety of health problems in North Carolina and across the world. Research resources include diverse studies of disease endpoints (cancer, cardiovascular, infectious disease, injury, and reproductive/perinatal/pediatric epidemiology) and factors and methods that impact patterns of disease and population health (environmental, occupational, pharmacoepidemiology, genetic, social, and methods).

Degrees and Certificates

The Department of Epidemiology offers a master's degree and a doctoral degree, and cosponsors a certificate. The master's and doctoral programs offer a body of research skills together with the opportunity to work closely with faculty on key research questions, and to share the challenge and rewards that epidemiology provides.

Master of Science in Clinical Research (M.S.C.R.)

The M.S.C.R. program is an interdisciplinary research degree program housed within the Department of Epidemiology in the Gillings School of Global Public Health. The program is designed for physician-scientists and others who want to develop the skills necessary for a successful career as a principal investigator and collaborator in clinical and translational research. The M.S.C.R. requires a minimum of 36 semester hours of credit and is designed as a two-year program with at least two full semesters in residence. The program may be completed on either a part-time or full-time basis.

Those in the M.S.C.R. program must have a doctoral-level professional degree (M.D., Pharm.D., Ph.D., D.D.S., nurses with Ph.D., D.V.M., etc.) or extensive health professions experience (R.N.'s, P.A's). At the time of enrollment in the M.S.C.R., participants will simultaneously be residents, clinical fellows, post-doctoral fellows, or junior faculty at UNC or Duke University. We anticipate that each student will already be affiliated with a "home academic program," reflecting the funding source (e.g., T32 or K12 funding), training program (e.g., post-doctoral fellowship), or department.

Doctor of Philosophy (Ph.D.)

The doctor of philosophy (Ph.D.) in epidemiology prepares students for careers in research and teaching, often at a university, federal, or state agency, or private research institution. Students develop research and teaching skills in epidemiology through coursework and practice opportunities. The doctoral program includes coursework, preliminary doctoral examinations, and doctoral research. Students typically complete the doctorate in four to five years after admission.

Certificate in Field Epidemiology

The Certificate in Field Epidemiology (http://sph.unc.edu/phlp/phlp-degrees-and-certificates/certificate-in-field-epidemiology/) is cosponsored by the Department of Epidemiology and the Public Health Leadership Program. The program is specifically designed for working practitioners and emphasizes practical, applied skills.

Public Health, Master's Program (M.P.H.) — Applied Epidemiology Concentration

Epidemiology — the study of the distribution and determinants of disease or other influencing risk factors in a population — is the cornerstone of public health inquiry and problem-solving. Unlike clinical medicine which predominantly focuses on an individual's health and well-being, epidemiology uses a broader lens to examine the health of populations. Through this approach, epidemiologists identify public health threats and inform targets for interventions that reduce risk and improve health.

Our program, offered on-campus andonline, you'll learn to apply epidemiologic tools and frameworks to describe patterns of disease and other public health issues affecting diverse populations. By clarifying problems, you'll drive effective solutions.

Course Requirements

Requirements for the **M.P.H.** degree in the **Applied Epidemiology** concentration

Code	Title	Hours
M.P.H. Integrated Core		
SPHG 711	Data Analysis for Public Health	2
SPHG 712	Methods and Measures for Public Health Practice	2
SPHG 713	Systems Approaches to Understanding Public Health Issues	2
SPHG 701	Leading from the Inside-Out	2
SPHG 721	Public Health Solutions: Systems, Policy and Advocacy	2
SPHG 722	Developing, Implementing, and Evaluating Public Health Solutions (MPH Comprehensive Exam administered in class)	4
M.P.H. Practicum		
SPHG 703	MPH Pre-Practicum Assignments	0.5
SPHG 707	MPH Post-Practicum Assignments	0.5
M.P.H. Concentration		
EPID 710	Fundamentals of Epidemiology	3
EPID 795	Data in Public Health	3
EPID 716	Epidemiologic Data Analysis	3
EPID 750	Fundamentals of Public Health Surveillance	3
EPID 759	Methods in Field Epidemiology	3
M.P.H. Electives		
Electives (Graduate-level courses, 400+ level at Gillings, 500+ level at UNC)		9
M.P.H. Culminating Experience		
EPID 992	Master's (Non-Thesis)	3
Minimum Hours		**42**

Admissions

Please visit Applying to the Gillings School (https://sph.unc.edu/students/how-to-apply/) first for details and information. Application to the residential M.P.H. is a 2-step process. Please apply separately to (1) SOPHAS and (2) UNC–Chapel Hill (via the Graduate School application link that will be sent after completing the SOPHAS application). Visit the Graduate School Web site (https://gradschool.sites.unc.edu/master-of-

public-health/) for more details. If you are interested in the online M.P.H., please visit the MPH@UNC (https://onlinemph.unc.edu/) website and fill out an inquiry form.

Milestones

- Master's Committee
- Master's Written Examination/Approved Substitute (Comprehensive Exam)
- Thesis Substitute (Culminating Experience)
- Residence Credit
- Exit Survey
- Master's Professional Work Experience (Practicum)

Master of Science in Clinical Research (M.S.C.R.)

The M.S.C.R. program is an interdisciplinary research degree program housed within the Department of Epidemiology in the Gillings School of Global Public Health. The program is designed for physician-scientists and others who want to develop the skills necessary for a successful career as a principal investigator and collaborator in clinical and translational research. The M.S.C.R. requires a minimum of 36 semester hours of credit and is designed as a two-year program with at least two full semesters in residence. The program may be completed on either a part-time or full-time basis.

Those in the M.S.C.R. program must have a doctoral-level professional degree (M.D., Pharm.D., Ph.D., D.D.S., nurses with Ph.D., D.V.M., etc.) or extensive health professions experience (R.N.'s, P.A's). At the time of enrollment in the M.S.C.R., participants will simultaneously be residents, clinical fellows, post-doctoral fellows, or junior faculty at UNC or Duke University. We anticipate that each student will already be affiliated with a "home academic program," reflecting the funding source (e.g., T32 or K12 funding), training program (e.g., post-doctoral fellowship), or department.

Course Requirements

Code	Title	Hours
Public Health Foundation Courses		
SPHG 600	Introduction to Public Health [1]	3
Core Courses		
EPID 711	Clinical Measurement and Evaluation	3
BIOS 641	Quantitative Methods for Health Care Professionals I	4
EPID 804	Design of Clinical Research Studies	4
BIOS 642	Quantitative Methods for Health Care Professionals II	4
EPID 726	Epidemiologic Research Methods	3
EPID 790	Intervention Epidemiology	2
Electives [2]		
Any SPH graduate level course, or approved graduate level course		7
Any Substantive Epidemiology Course of at least 3 credits (see list below)		3
Thesis/Substitute or Dissertation Hours		
EPID 992	Master's (Non-Thesis)	3
Minimum Hours		**36**

[1] Students with a prior public health degree are not required to take SPHG 600; exemptions are available for those with non-public health degrees from accredited SPHs. Students should discuss with their Academic Coordinator.

[2] Students interested in substituting a graduate level course (600 level or higher) outside of the Gillings School of Public Health should email a request to the Academic Coordinator for review by the MSCR Program Director for consideration.

Code	Title	Hours
Substantive Epidemiology Course Options		
EPID 625	Injury as a Public Health Problem	3
EPID 626	Violence as a Public Health Problem	3
EPID 735	Cardiovascular Epidemiology	3
EPID 738A	Methods and Applications of Cardiovascular Disease Surveillance	1
EPID 738B	Epidemiology of Stroke	1
EPID 743	Genetic Epidemiology: Methods and Applications	3
EPID 750	Fundamentals of Public Health Surveillance	3
EPID 754	Advanced Methods in Infectious Disease Epidemiology	3
EPID 755	Introduction to Infectious Disease Epidemiology	3
EPID 758	Methods and Principles of Applied Infectious Disease Epidemiology	3
EPID 759	Methods in Field Epidemiology	3
EPID 760	Vaccine Epidemiology	3
EPID 764	Hospital Epidemiology	1-2
EPID 765	Methods and Issues in Pharmacoepidemiology	3
EPID 766	Epidemiologic Research with Healthcare Databases	3
EPID 770	Cancer Epidemiology and Pathogenesis	3
EPID 771	Cancer Epidemiology: Survivorship and Outcomes	3
EPID 772	Cancer Prevention and Control Seminar	3
EPID 775	Advanced Cancer Epidemiology: Classic and Contemporary Controversies in Cancer Causation	2
EPID 785	Environmental Epidemiology	3
EPID 787	Advanced Environmental Epidemiology	2
EPID 814	Obesity Epidemiology	3
EPID 818	Analytical Methods in Nutritional Epidemiology	3
EPID 826	Introduction to Social Epidemiology	2
EPID 827	Social Epidemiology: Design and Interpretation	2
EPID 851	Reproductive and Perinatal Epidemiology	3
EPID 853	Advanced Topics in Perinatal and Pediatric Epidemiology	2

Milestones

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 27) for more information.

- Master's Committee
- Master's Written Exam / Approved Substitute
- Thesis Substitute
- Residence Credit
- Exit Survey
- Master's IRB Compliance

Epidemiology, Doctoral Program (Ph.D.)

The Doctor of Philosophy (Ph.D.) provides students with research and teaching skills in epidemiology through coursework, doctoral research, practice opportunities, and preliminary doctoral examinations.

Course Requirements

Code	Title	Hours
Public Health Foundation Course		
SPHG 600	Introduction to Public Health [1]	3
Core Courses		
EPID 700	SAS and Data Management	3
EPID 704	Responsible Epidemiology	1
EPID 710	Fundamentals of Epidemiology	3
EPID 712	Readings in Fundamentals of Epidemiology	1
BIOS 600	Principles of Statistical Inference [2]	3
or BIOS 662	Intermediate Statistical Methods	
or BIOS 650	Basic Elements of Probability and Statistical Inference I	
EPID 715	Theory and Quantitative Methods in Epidemiology	4
EPID 716	Epidemiologic Data Analysis	3
BIOS 645	Principles of Experimental Analysis [2]	3
or BIOS 663	Intermediate Linear Models	
EPID 717	Advanced Epidemiologic Methods (Previously EPID 722)	3
EPID 718	Analytic Methods in Observational Epidemiology	3
EPID 726	Epidemiologic Research Methods	3
Electives		
Must take a minimum of 2 Epidemiology courses consisting of at least 2 credits in the student's epidemiology program area of study and 2 credits in an area of epidemiology outside the student's program area of study. See list of Elective Options below.		4
Advanced Statistics Course		
Must take one advanced statistics course. Currently approved options are: [3]		3
BIOS 664	Sample Survey Methodology	
BIOS 665	Analysis of Categorical Data	
BIOS 667	Applied Longitudinal Data Analysis	
HBEH 762	Applied Statistical Methods in Health Behavior Research II [4]	
SOWO 916	Structural Equation Modeling	
SOWO 917	Longitudinal and Multilevel Analysis	
SOCI 711	Analysis of Categorical Data	
SOCI 717	Structural Equations with Latent Variables	
SOCI 718	Longitudinal and Multilevel Data Analysis	
Thesis/Substitute or Dissertation		
EPID 994	Doctoral Research and Dissertation [5]	6
Total Hours		**37-46**

1. Students with a prior public health degree are not required to take SPHG 600; exemptions are available for those with non-public health degrees from accredited SPHs. Students should discuss this with their Academic Coordinator.
2. Please contact your Program Specialist for additional guidance in the case of exemptions.
3. Other options can be approved by individual petition to Academic Coordinator for review by Graduate Studies Committee.
4. HBEH 762 only meets the Advanced Statistics Requirement if it is the 3 credit version.
5. Students must enroll in a minimum of two semesters (6 hours) of EPID 994.

Epidemiology Elective Options

Code	Title	Hours
EPID 625	Injury as a Public Health Problem	3
EPID 626	Violence as a Public Health Problem	3
EPID 702	Systematic Review	2
EPID 719	Readings in Epidemiologic Methods	1
EPID 735	Cardiovascular Epidemiology	3
EPID 738A	Methods and Applications of Cardiovascular Disease Surveillance	1
EPID 738B	Epidemiology of Stroke	1
EPID 743	Genetic Epidemiology: Methods and Applications	3
EPID 750	Fundamentals of Public Health Surveillance	3
EPID 754	Advanced Methods in Infectious Disease Epidemiology	3
EPID 755	Introduction to Infectious Disease Epidemiology	3
EPID 757	Problem Solving Seminar in Advanced Infectious Disease Epidemiology	3
EPID 758	Methods and Principles of Applied Infectious Disease Epidemiology	3
EPID 759	Methods in Field Epidemiology	3
EPID 760	Vaccine Epidemiology	3
EPID 764	Hospital Epidemiology	1-2
EPID 765	Methods and Issues in Pharmacoepidemiology	3
EPID 766	Epidemiologic Research with Healthcare Databases	3
EPID 770	Cancer Epidemiology and Pathogenesis	3
EPID 771	Cancer Epidemiology: Survivorship and Outcomes	3
EPID 772	Cancer Prevention and Control Seminar	3
EPID 775	Analytical Methods of Cancer Health Equity	2
EPID 785	Environmental Epidemiology	3
EPID 787	Advanced Environmental Epidemiology	2
EPID 790	Intervention Epidemiology	2
EPID 795	Data in Public Health	3
EPID 799A	Special Studies in Epidemiology I	1
EPID 799B	Special Studies in Epidemiology II	2
EPID 799C	Special Studies in Epidemiology III	3
EPID 810	Physical Activity Epidemiology and Public Health	3
EPID 814	Obesity Epidemiology	3
EPID 818	Analytical Methods in Nutritional Epidemiology	3
EPID 826	Introduction to Social Epidemiology	2
EPID 827	Social Theories for Epidemiologic Research	2
EPID 851	Reproductive and Perinatal Epidemiology	3
EPID 853	Advanced Topics in Perinatal and Pediatric Epidemiology	2
EPID 889	Topics in Epidemiology Seminar	1
EPID 893	Pharmacoepidemiology Seminar	1

EPID 894	Infectious Disease Seminar	1
EPID 897	Advanced Seminar in Cardiovascular Research	1-3

Substantive Epidemiology Course Options

Code	Title	Hours
EPID 625	Injury as a Public Health Problem	3
EPID 626	Violence as a Public Health Problem	3
EPID 735	Cardiovascular Epidemiology	3
EPID 738A	Methods and Applications of Cardiovascular Disease Surveillance	1
EPID 738B	Epidemiology of Stroke	1
EPID 743	Genetic Epidemiology: Methods and Applications	3
EPID 750	Fundamentals of Public Health Surveillance	3
EPID 754	Advanced Methods in Infectious Disease Epidemiology	3
EPID 755	Introduction to Infectious Disease Epidemiology	3
EPID 758	Methods and Principles of Applied Infectious Disease Epidemiology	3
EPID 759	Methods in Field Epidemiology	3
EPID 760	Vaccine Epidemiology	3
EPID 764	Hospital Epidemiology	1-2
EPID 765	Methods and Issues in Pharmacoepidemiology	3
EPID 766	Epidemiologic Research with Healthcare Databases	3
EPID 770	Cancer Epidemiology and Pathogenesis	3
EPID 771	Cancer Epidemiology: Survivorship and Outcomes	3
EPID 772	Cancer Prevention and Control Seminar	3
EPID 775	Analytical Methods of Cancer Health Equity	2
EPID 785	Environmental Epidemiology	3
EPID 787	Advanced Environmental Epidemiology	2
EPID 790	Intervention Epidemiology	2
EPID 810	Physical Activity Epidemiology and Public Health	3
EPID 814	Obesity Epidemiology	3
EPID 818	Analytical Methods in Nutritional Epidemiology	3
EPID 826	Introduction to Social Epidemiology	2
EPID 827	Social Theories for Epidemiologic Research	2
EPID 851	Reproductive and Perinatal Epidemiology	3
EPID 853	Advanced Topics in Perinatal and Pediatric Epidemiology	2
EPID 889	Topics in Epidemiology Seminar	1

Milestones

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 27) for more information.

- Doctoral Written Exam (Methods Qualifying Exam - QE)
- Doctoral Written Exam 2 (Substantive Qualifying Exam - QE)
- Doctoral Research Experience (Doctoral Research Practicum)
- Doctoral Teaching Experience
- Doctoral Intradepartmental Review
- Doctoral Committee
- Doctoral Oral Comprehensive Exam (Dissertation Proposal Defense)
- Prospectus Oral Exam (Dissertation Proposal Defense)
- Advanced to Candidacy
- Doctoral IRB Compliance
- Doctoral Preparatory Committee Review (Interim Meeting)
- Doctoral Manuscript Submission
- Dissertation Defense
- Doctoral Dissertation Approved/Format Accepted
- Residence Credit
- Exit Survey

EPID

Advanced Undergraduate and Graduate-level Courses

EPID 600. Principles of Epidemiology for Public Health. 3 Credits.
An introductory course that considers the meaning, scope, and applications of epidemiology to public health practice and the uses of vital statistics data in the scientific appraisal of community health. One lecture and two lab hours per week.

Rules & Requirements
Grading Status: Letter grade.

EPID 625. Injury as a Public Health Problem. 3 Credits.
This course examines unintentional injuries from a public health perspective. The course covers core concepts in injury prevention and control, including the epidemiology of unintentional injury, prevention strategies, behavioral models, child and adolescent injury, messaging framing, the Haddon matrix, and injury surveillance.

Rules & Requirements
Requisites: Corequisite, EPID 600.
Grading Status: Letter grade.
Same as: MHCH 625, HBEH 625.

EPID 626. Violence as a Public Health Problem. 3 Credits.
This course covers core concepts in violence prevention and control, including the epidemiology of violence, prevention strategies for inter-personal and intra-personal violence, behavioral models that describe power structures that reinforce personal and societal factors affecting self-harm and violence towards others, and violence directed towards children and adolescents.

Rules & Requirements
Grading Status: Letter grade.
Same as: MHCH 626, HBEH 626.

EPID 695. Research in Epidemiology. 1-3 Credits.
Permission of the instructor. A course for undergraduate students who wish to conduct research as part of an ongoing epidemiology project or as an independent activity.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 3 total credits. 3 total completions.
Grading Status: Letter grade.

EPID 696. Problems in Epidemiology. 1-3 Credits.
A course for undergraduate students who wish to make an intensive study of some special problems in epidemiology.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 3 total credits. 3 total completions.
Grading Status: Letter grade.

Graduate-level Courses

EPID 700. SAS and Data Management. 3 Credits.
An introduction to statistical analysis, programming, and data management, using the SAS programming language. Two lecture hours and two lab hours per week.

Rules & Requirements
Grading Status: Letter grade.

EPID 701. R for Epidemiologists. 3 Credits.
This course is intended to be the most effective and efficient way for UNC Epidemiology students to establish a foundation in the R programming language, RStudio IDE, and functional programming modalities. Special attention is given to R topics and packages relevant for epidemiological data management, analysis, and visualization.

Rules & Requirements
Grading Status: Letter grade.

EPID 702. Systematic Review. 2 Credits.
Course gives students background in assessing and conducting systematic reviews. Focuses on 1) reading, discussing, and critiquing systematic reviews on various topics; 2) reading background and methods articles on systematic reviews; 3) developing a focused question for systematic review; and 4) developing a protocol for a systematic review over the semester.

Rules & Requirements
Grading Status: Letter grade.
Same as: PUBH 702.

EPID 704. Responsible Epidemiology. 1 Credits.
EPID 704 aims to provide level-setting and foundational content on health equity and social determinants of health, with the goal of facilitating a transition into later health equity content in the other epidemiology methods courses.

Rules & Requirements
Grading Status: Letter grade.

EPID 705. Introduction to Deductive and Probability Logic in Epidemiology. 2 Credits.
Permission of the instructor for nonmajors. Covers properties of logical relations, truth tables and Euler diagrams, valid and fallacious arguments, cognitive heuristics and biases, interpretations of probability, the probability calculus, Bayes' theorem, binomial and normal distributions, applications of probability logic and probabilistic fallacies, all in an epidemiologic context.

Rules & Requirements
Grading Status: Letter grade.

EPID 710. Fundamentals of Epidemiology. 3 Credits.
An intensive introduction to epidemiological concepts and methods from a perspective of causal inference. This course is for students intending to lead, engage in, collaborate in, or interpret the results of epidemiologic studies. Some familiarity with biomedical concepts may be needed. Three lecture hours a week.

Rules & Requirements
Requisites: Corequisites, EPID 712 (EPID PhD students and EPID PhD minor students only); Pre- or corequisite, BIOS 600 or 662 or SPHG 712 or equivalent.
Grading Status: Letter grade.

EPID 711. Clinical Measurement and Evaluation. 3 Credits.
Provide a broad-based introduction to the concepts and methods of epidemiology with particular emphasis on their application in clinical research, clinical practice and health care policy.

Rules & Requirements
Grading Status: Letter grade.
Same as: PUBH 760.

EPID 712. Readings in Fundamentals of Epidemiology. 1 Credits.
A course applying the concepts and methods introduced in EPID 710 (required co-requisite for EPID 712) to readings in the epidemiologic, biomedical, and public health research literature.

Rules & Requirements
Requisites: Corequisite, EPID 710.
Grading Status: Letter grade.

EPID 715. Theory and Quantitative Methods in Epidemiology. 4 Credits.
An in-depth treatment of basic concepts and skills in epidemiologic research, including problem conceptualization, study design, research conduct, data analysis, and interpretation. Four lecture hours per week. EPID PhD students and EPID PhD minor students only. Permission of the instructor required for all others.

Rules & Requirements
Requisites: Prerequisites, EPID 705, EPID 710 and EPID 712 or EPID 711; Corequisite, BIOS 645.
Grading Status: Letter grade.

EPID 716. Epidemiologic Data Analysis. 3 Credits.
Required preparation, documented SAS proficiency. This course is a combined lecture/lab format where students get hands-on experience in the analysis and interpretation of data from cohort and case-control studies. Students may take the SAS exemption exam in lieu of taking EPID 700, EPID 795 or BIOS 511.

Rules & Requirements
Requisites: Prerequisites, EPID 710 or EPID 711; and EPID 700 or EPID 795 or BIOS 511.
Grading Status: Letter grade.

EPID 717. Advanced Epidemiologic Methods. 3 Credits.
Course covers epidemiologic analysis of time-to-event data and emphasizes weighing threats to the accuracy of inferences. Class time is spent discussing weekly readings and homeworks.

Rules & Requirements
Requisites: Prerequisite, EPID 705, 710, 712, 715, 716.
Grading Status: Letter grade.

EPID 718. Analytic Methods in Observational Epidemiology. 3 Credits.
This course provides an in-depth treatment of the analysis of data from observational epidemiologic studies, including both tabular and regression modeling approaches, and with an emphasis on the importance of study design in developing and executing an analysis plan. A major focus of the course is the semester-long, independent data analysis project in which students apply and integrate the concepts covered in class to a dataset and research question of their choosing.

Rules & Requirements
Requisites: Prerequisite, EPID 705, 710, 712, 715, 716, 717; Permission of the instructor for nonmajors.
Grading Status: Letter grade.

EPID 719. Readings in Epidemiologic Methods. 1 Credits.
A discussion in journal-club format of readings in general epidemiologic methods, from problem conceptualization to application of results.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

EPID 726. Epidemiologic Research Methods. 3 Credits.
Minimum second-year standing in doctoral (with permission of the instructor) or MSCR program. A course in the design and conduct of epidemiologic research. Each student will comprehensively address the conceptual and practical aspects of developing a high-quality, detailed research proposal. EPID PhD or MSCR majors only.

Rules & Requirements
Requisites: Prerequisite, EPID 715 or EPID 804.
Grading Status: Letter grade.

EPID 735. Cardiovascular Epidemiology. 3 Credits.
Review of cardiovascular health and disease in populations and their population determinants. Topics include epidemiologic methods, risk factors, strategies for prevention, and a student research project. Three lecture hours per week

Rules & Requirements
Grading Status: Letter grade.

EPID 738A. Methods and Applications of Cardiovascular Disease Surveillance. 1 Credits.
This course helps students gain experience critiquing and interpreting national and international cardiovascular disease (CVD) surveillance programs, evaluate recommendations for future CVD surveillance research and policy, and to explore CVD surveillance data sources with hands-on experience with practical aspects of study conduct.

Rules & Requirements
Requisites: Prerequisite, EPID 735.
Grading Status: Letter grade.

EPID 738B. Epidemiology of Stroke. 1 Credits.
This course helps students become familiar with physiologic and pathologic aspects of cerebrovascular diseases, provides opportunity to explore research findings regarding major risk factors for stroke and evidence for prevention strategies, and offers a guided experience in critiquing, synthesizing, and communicating stroke related research findings.

Rules & Requirements
Requisites: Prerequisite, EPID 735.
Grading Status: Letter grade.

EPID 738C. Contemporary Issues in Hypertension Research. 1 Credits.
In this seminar, we examine several contemporary issues related to hypertension research, particularly pertaining to measurement of blood pressure. Each session will begin with an overview, likely didactic, followed by more in-depth discussion of the topics.

Rules & Requirements
Requisites: Prerequisite, EPID 735.
Grading Status: Letter grade.

EPID 742. Biomarkers in Population-Based Research. 2 Credits.
This course surveys the major issues relevant to the application of biomarkers in epidemiological research, including the logistical hurdles in biospecimen collection and storage, assessments of biomarker quality, analytic issues, and the interpretation of quantitative estimates.

Rules & Requirements
Grading Status: Letter grade.

EPID 743. Genetic Epidemiology: Methods and Applications. 3 Credits.
Concepts and methods of genetic epidemiology relevant to the study of complex human diseases, including segregation analysis, linkage analysis, and gene-environment interaction. Includes whole genome approaches, as well as nonhuman systems. Three lecture hours a week.

Rules & Requirements
Requisites: Prerequisites, BIOS 545 and EPID 715; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

EPID 750. Fundamentals of Public Health Surveillance. 3 Credits.
This course provides the conceptual foundations and practical skills for designing and implementing surveillance systems, for using surveillance data for the conduct and evaluation of public health programs and research.

Rules & Requirements
Grading Status: Letter grade.

EPID 751. Biological Basis of Infectious Disease Epidemiology. 3 Credits.
The purpose of this course is to familiarize students with the biological factors underpinning the epidemiology of infectious diseases. Topics will include emerging and endemic viral and bacterial diseases, innate and adaptive immunity, vaccine and therapeutic development, and the public health challenges of infectious disease response. This course is required of all ID epidemiology PhD students, but students may in rare cases exempt out with the permission of the instructor.

Rules & Requirements
Grading Status: Letter grade.

EPID 754. Advanced Methods in Infectious Disease Epidemiology. 3 Credits.
This course covers theories, concepts, study designs, and analytical methods of particular importance in studying infectious outcomes. Teaching methods include lectures, hands-on computer practicals, article discussions, and written assignments.

Rules & Requirements
Requisites: Prerequisites, EPID 715 and 716.
Grading Status: Letter grade.

EPID 755. Introduction to Infectious Disease Epidemiology. 3 Credits.
Alternative coursework or prior experience equivalent to the above prerequisites will be considered, and permission to register granted, on a case-by-case basis by the instructor. . Permission required for non-majors. This course will cover concepts, theory, study designs, and analytical methods of particular importance in infectious disease epidemiology. Most topics will be introduced with a didactic lecture and readings, followed by an in-class exercise, discussion, or computer practical applying relevant theories, concepts, and methods to specific questions in infectious disease epidemiology.

Rules & Requirements
Requisites: Prerequisites, EPID 600 or EPID 710 or SPHG 712, AND EPID 751.
Grading Status: Letter grade.

EPID 756. Introduction to Infectious Disease Modeling and Simulation in R. 1 Credits.
Basic concepts and skills needed to use R software for infectious disease modeling and simulations. Course involves lectures and coding demonstrations. In assignments, students will implement compartmental and stochastic models and simulate epidemic dynamics. 1 credit hour.

Rules & Requirements
Requisites: Prerequisites, EPID 751 or "Biological Basis of Infectious Disease Epidemiology" (offered as either EPID 799B or EPID 799C) and EPID 755.
Grading Status: Letter grade.

EPID 757. Problem Solving Seminar in Advanced Infectious Disease Epidemiology. 3 Credits.
In this seminar, we will explore how a combination of the biological understanding of disease processes and advanced methods in infectious disease analytics are essential to understanding critical problems in infectious disease, including the interpretation of surveillance data, the design of control measures and projecting the course of epidemics. We will take a "problem based" approach to learning about these issues, with a focus on a rotating set of disease systems. Restricted to Epidemiology PhD students, though others may be admitted with permission of the instructors.

Rules & Requirements
Requisites: Prerequisites, EPID 751, 755, and 799A.
Grading Status: Letter grade.

EPID 758. Methods and Principles of Applied Infectious Disease Epidemiology. 3 Credits.
This course will cover the interaction between an infectious agent, host, and environment; modes and dynamics of transmission; the role of immunity in infectious disease epidemiology; and disease elimination strategies. Three lecture hours per week.

Rules & Requirements
Requisites: Prerequisite, EPID 600.
Grading Status: Letter grade.

EPID 759. Methods in Field Epidemiology. 3 Credits.
Course will focus on epidemiological methods required to investigate urgent public health problems. Course covers the skills and tools needed to conduct outbreak investigations and communicate findings to the public. Three lecture hours per week.

Rules & Requirements
Grading Status: Letter grade.

EPID 760. Vaccine Epidemiology. 3 Credits.
An overview of vaccinology principles, mechanisms of action, and herd protection, and statistical considerations. Students will obtain understanding of how vaccines are produced by industry, undergo preclinical evaluation, and evaluated for efficacy in clinical trials.

Rules & Requirements
Grading Status: Letter grade.

EPID 764. Hospital Epidemiology. 1-2 Credits.
Comprehensive seminar in hospital infection control. Topics include issues in employee health, surveillance, outbreak investigation, environmental sampling, and policy formation. May be repeated for credit. Two to four seminar hours.

Rules & Requirements
Requisites: Prerequisite, EPID 710; Permission of the instructor required.
Grading Status: Letter grade.

EPID 765. Methods and Issues in Pharmacoepidemiology. 3 Credits.
Required preparation, introductory-level epidemiology and biostatistics. Application of the epidemiologic knowledge, methodology, and reasoning to the study of the effects (beneficial and adverse) and uses of drugs in human populations.

Rules & Requirements
Grading Status: Letter grade.

EPID 766. Epidemiologic Research with Healthcare Databases. 3 Credits.
Required preparation, competency in data management with SAS (BIOS 511, EPID 700, or equivalent). Learn how healthcare utilization data are generated and use databases to identify study populations and conduct epidemiologic analysis of the utilization and comparative effectiveness/safety of prescription drugs and healthcare services.

Rules & Requirements
Requisites: Prerequisite, EPID 710 OR EPID 600 (or equivalent); Demonstrated SAS competency.
Grading Status: Letter grade.
Same as: DPOP 766.

EPID 770. Cancer Epidemiology and Pathogenesis. 3 Credits.
Equivalent experience for students lacking EPID 710. Undergraduate major or strong preparation in the biological sciences required. Permission of the instructor for nonmajors. Emphasis on integration of epidemiologic data with laboratory and clinical research findings. Issues in epidemiologic research design, analysis, and interpretation are presented within the context of substantive epidemiology. Three lecture hours a week.

Rules & Requirements
Requisites: Prerequisites, BIOS 600 and EPID 710.
Grading Status: Letter grade.

EPID 771. Cancer Epidemiology: Survivorship and Outcomes. 3 Credits.
Students will evaluate the strengths and weaknesses of data sources common to cancer survivorship and outcomes studies, focusing on epidemiologic study designs. The course addresses cancer detection, treatment strategies, medical surveillance, and personal behaviors as determinants for prognosis, late effects, and the long-term health of cancer survivors.

Rules & Requirements
Requisites: Prerequisite, EPID 710 or 711.
Grading Status: Letter grade.

EPID 772. Cancer Prevention and Control Seminar. 3 Credits.
An interdisciplinary overview of cancer prevention and control. Emphasis on projects and activities from perspectives of epidemiology, health behavior and education, and health policy and management. Appropriate research design and methodologies are covered.

Rules & Requirements
Grading Status: Letter grade.
Same as: HPM 765, HBEH 765.

EPID 775. Analytical Methods of Cancer Health Equity. 2 Credits.
Permission of the instructor for students lacking the prerequisites. Readings and discussions on classic and contemporary topics in cancer health equity. Two seminar hours per week.

Rules & Requirements
Requisites: Prerequisites, EPID 715 and 770 or 771.
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

EPID 780. Occupational Epidemiology. 3 Credits.
Required preparation, introductory epidemiology and biostatistics. This course provides a background in the epidemiology of work-related illness and injury and the application of epidemiologic concepts and methods in protecting workers' health and safety.

Rules & Requirements
Grading Status: Letter grade.

EPID 785. Environmental Epidemiology. 3 Credits.
Epidemiologic ideas and methods applied to evaluation and control of human health consequences of environmental hazards. Pollution of environmental media and global change are considered from a human-ecological perspective, with local and international examples. Three lecture hours per week.

Rules & Requirements
Requisites: Prerequisites, EPID 710 and BIOS 600.
Grading Status: Letter grade.

EPID 787. Advanced Environmental Epidemiology. 2 Credits.
Discussion of the epidemiology of environmentally-related disease and the application of epidemiologic concepts/methods to protecting public health from environmental hazards. Examples illustrate discussions regarding exposure assessment, dynamic nature of environments, regulation/assessment of environmental hazards, and methods used for environmental hazard identification and risk assessments.

Rules & Requirements
Grading Status: Letter grade.

EPID 790. Intervention Epidemiology. 2 Credits.
Epidemiologic methods for evaluating interventions, primarily in infectious disease epidemiology and injury epidemiology. Covers randomized designs, such as community trials, and evaluation of non-randomized interventions, such as policies and laws.

Rules & Requirements
Requisites: Co-requisites, EPID 705 and 710.
Grading Status: Letter grade.

EPID 795. Data in Public Health. 3 Credits.
This course provides students with an overview of public health informatics and includes in-depth discussions on informatics approaches used in developing the public health information systems in use today.

Rules & Requirements
Grading Status: Letter grade.

EPID 799A. Special Studies in Epidemiology I. 1 Credits.
Experimental course to be offered by faculty to determine the need and demand for the subject. Topics will be chosen by faculty based on current public health issues. One credit option.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 3 total credits. 3 total completions.
Grading Status: Letter grade.

EPID 799B. Special Studies in Epidemiology II. 2 Credits.
Experimental course to be offered by faculty to determine the need and demand for the subject. Topics will be chosen by faculty based on current public health issues. Two credits option.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 6 total credits. 3 total completions.
Grading Status: Letter grade.

EPID 799C. Special Studies in Epidemiology III. 3 Credits.
Experimental course to be offered by faculty to determine the need and demand for the subject. Topics will be chosen by faculty based on current public health issues. Three credits option.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 9 total credits. 3 total completions.
Grading Status: Letter grade.

EPID 801. Data Analysis in Oral Epidemiology. 2-3 Credits.
Required preparation, basic knowledge of SAS. Permission of the instructor. Data analysis project in oral epidemiology: data cleanup, file construction, analysis. For three credit hours, student also completes multivariate analysis with linear, logistic regression. Project to result in publishable paper. Two to three seminar hours a week.

Rules & Requirements
Grading Status: Letter grade.

EPID 804. Design of Clinical Research Studies. 4 Credits.
Permission required for nonmajors. Clinical research majors only. The goals of this course are to develop a strong fundamental understanding of the design of clinical research studies; to understand selection of study populations, exposure and outcome measurement, and choice of appropriate measures; to understand ethical oversight, project management and quality control.

Rules & Requirements
Requisites: Prerequisite, EPID 711, PUBH 741 or equivalent; Corequisite, PUBH 742 or equivalent.
Grading Status: Letter grade.

EPID 810. Physical Activity Epidemiology and Public Health. 3 Credits.
This course provides an overview of major issues in physical activity measurements, population distribution, correlates, impacts (physically and economically), and public health recommendations. Interventions, including relevant theories, will be reviewed. Three lecture hours per week.

Rules & Requirements
Requisites: Prerequisite, EPID 600.
Grading Status: Letter grade.
Same as: NUTR 810.

EPID 814. Obesity Epidemiology. 3 Credits.
Examines epidemiology research on the causes, consequences, and prevention of obesity. Emphasis on methodological issues pertinent to obesity research.

Rules & Requirements
Requisites: Prerequisites, BIOS 545, EPID 715, 716 and NUTR 812 or NUTR 813.
Grading Status: Letter grade.
Same as: NUTR 814.

EPID 818. Analytical Methods in Nutritional Epidemiology. 3 Credits.
Skills and techniques to study how dietary exposures, physical activity, and anthropometric status relate to disease outcomes. Focus is hands-on data analysis using STATA, and interpretation of results from statistical analysis.

Rules & Requirements
Requisites: Prerequisites, BIOS 545, EPID 600 or 710, and NUTR 813.
Grading Status: Letter grade.
Same as: NUTR 818.

EPID 823. Integrating Social and Biological Perspectives on Human Health. 3 Credits.
Student will learn key theories and methodological approaches for how social processes, socio-spatial organization, and social inequality are associated with health patterns, changes, and disparities; theories/approaches for studying human health from a biological perspective; and strategies using integrated social and biological research perspectives and address advantages and challenges.

Rules & Requirements
Grading Status: Letter grade.
Same as: SOCI 823.

EPID 826. Introduction to Social Epidemiology. 2 Credits.
This course provides an overview of key concepts, methods and findings in research on social determinants of population health. Classes will consist of a didactic presentation followed by in-class group work modules and large group summary discussion.

Rules & Requirements
Requisites: Prerequisite, SPHG 711 or SPHG 712 or EPID 710, or other introductory epidemiology course with instructor permission.
Grading Status: Letter grade.

EPID 827. Social Theories for Epidemiologic Research. 2 Credits.
This course explores key social theories and their applications in epidemiologic research. Drawing from diverse disciplines, students will examine prevailing frameworks outlining how social structures, power dynamics, cultural contexts, and identity shape health behaviors, outcomes, and access to care. By course end, students will be equipped to apply social theory to research design, hypothesis generation, data interpretation, and the development of interventions that address health inequities to ensure more rigorous, relevant, and equitable epidemiologic research.

Rules & Requirements
Requisites: Pre- or corequisites, EPID 704 and EPID 826 or instructor permission.
Grading Status: Letter grade.

EPID 851. Reproductive and Perinatal Epidemiology. 3 Credits.
Epidemiology of reproductive and perinatal health outcomes, including infertility, fetal loss, preterm birth, birthweight, congenital malformations, and infant mortality. Includes current knowledge regarding epidemiology of these outcomes and discussion of methodologic issues. Three lecture hours per week.

Rules & Requirements
Requisites: Prerequisite, EPID 600 or EPID 710 or EPID 711 or SPHG 712.
Grading Status: Letter grade.
Same as: MHCH 851.

EPID 853. Advanced Topics in Perinatal and Pediatric Epidemiology. 2 Credits.
Critical review of current topics in, and methods for, perinatal and pediatric epidemiology.

Rules & Requirements
Requisites: Prerequisites, EPID 710 and 851; Permission of the instructor for master's level students.
Grading Status: Letter grade.
Same as: MHCH 853.

EPID 883. Teaching Experience in Epidemiology. 1-4 Credits.
Open to EPID majors, second-year or above. Provides epidemiology majors with supervised experience in teaching and course preparation. Students act as assistants in departmental courses. Two to eight seminar hours a week.

Rules & Requirements
Grading Status: Letter grade.

EPID 886. Readings in Epidemiology. 1-3 Credits.
Permission of the instructor required. Independent reading and tutorial guidance in special areas of epidemiology.

Rules & Requirements
Grading Status: Letter grade.

EPID 889. Topics in Epidemiology Seminar. 1 Credits.
EPID majors only. Topics are chosen to reflect emerging issues in the field, as well as those that meet the interests of the students and faculty in the department.

Rules & Requirements
Requisites: Prerequisite, EPID 710.
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

EPID 891. Epidemiology Doctoral Seminar. 2 Credits.
Exposes students to issues and debates in the philosophy of science, the object of knowledge in epidemiology, and the place of epidemiology in public health.

Rules & Requirements
Grading Status: Letter grade.

EPID 892. Translating Health Equity Methods into Practice. 0.5 Credits.
This course builds students' self-efficacy in using frameworks for equity assessment of programs and policies, articulating one's position on health inequity issues as well as in engaging opposing viewpoints. The course will also provide exposure to professionals who are advancing health equity in public health practice and research settings. Students will synthesize knowledge across their equity coursework and use that as a basis to define and build their health equity research or practice work. MPH Health Equity and Social Justice Students only.

Rules & Requirements
Repeat Rules: May be repeated for credit. 1 total credits. 2 total completions.
Grading Status: Letter grade.

EPID 893. Pharmacoepidemiology Seminar. 1 Credits.
This is a weekly seminar to explore current problems in pharmacoepidemiology. It supplements the introductory course, EPID 765. Required preparation, basic knowledge of epidemiology and biostatistics. May be repeated. One seminar hour a week.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

EPID 894. Infectious Disease Seminar. 1 Credits.
Required preparation, introductory epidemiology and biostatistics. Detailed review of selected topics in infectious disease epidemiology. May be repeated for credit.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

EPID 895. Seminar in Oral Epidemiology. 1 Credits.
Explores conceptual and methods issues in conducting epidemiologic investigations of oral conditions, specifically caries, periodontal disease, and oral cancer (topics rotate semesters).

Rules & Requirements
Requisites: Prerequisite, EPID 710.
Grading Status: Letter grade.

EPID 897. Advanced Seminar in Cardiovascular Research. 1-3 Credits.
Permission of the instructor. Review of substantive and methodological research in cardiovascular and cerebrovascular diseases. May be repeated for credit. Two to six seminar hours a week.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

EPID 900. Epidemiology Practice. 4 Credits.
Designed to give epidemiology majors a supervised field experience in population health research.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

EPID 905L. Epidemiology Laboratory Practice. 0.5-9 Credits.
Permission of the instructor. Students work individually with a faculty member on supervised laboratory research and skills development. May be repeated for credit. Two to 18 laboratory hours a week.

Rules & Requirements
Grading Status: Letter grade.

EPID 910. Research in Epidemiology. 1-9 Credits.
Permission of the instructor. Independent investigation in consultation with an instructor who must assign or approve the subject of research. Credits vary according to the effort and rigor of the research.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

EPID 992. Master's (Non-Thesis). 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

EPID 994. Doctoral Research and Dissertation. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

Following the faculty member's name is a section number that students should use when registering for independent studies, reading, research, and thesis and dissertation courses with that particular professor.

Distinguished Professors

Ralph S. Baric (142), Public Health Virology, Molecular Virology
Myron "Mike" Cohen, Infectious Disease Epidemiology
Michael Emch (234), Spatial Epidemiology, Medical Geography, Infectious Diseases, Neighborhoods and Health
Bradley Gaynes, Psychiatric Epidemiology
David M. Margolis (220), Infectious Disease Epidemiology
Andrew F. Olshan (147), Cancer Epidemiology, Reproductive/Perinatal Epidemiology
Robert S. Sandler (73), Cancer Epidemiology, Gastrointestinal Epidemiology
H. June Stevens (172), Nutritional Epidemiology, Obesity Epidemiology
Til Stürmer (224), Pharmacoepidemiology, Methodology
David J. Weber (96), Infectious Disease Epidemiology

Professors

Christy L. Avery (233), Cardiovascular Epidemiology, Genetic Epidemiology

Sylvia Becker-Dreps (246), Evaluation of Immunization Programs, Rotavirus Vaccines, Pneumococcal Vaccines

Stephen R. Cole (225), Methodology, Infectious Disease Epidemiology

Julie Daniels (206), Environmental Epidemiology, Reproductive/Perinatal/Pediatric Epidemiology

Lawrence Engel (232), Environmental Epidemiology, Cancer Epidemiology

Stephanie Engel (231), Reproductive/Perinatal Epidemiology, Environmental Epidemiology

Maria Gallo, Reproductive Health Epidemiology

Emily Gower (243), Ocular Epidemiology, Infectious Disease Epidemiology

Jonathan Juliano, Molecular Epidemiology and Genetics of Malaria

Justin Lessler (255), Infectious Disease Epidemiology, Methodology

Jennifer L. Lund (238), Cancer Survivorship and Outcomes, Pharmacoepidemiology, Healthcare Database Utilization

Stephen W. Marshall (199), Injury Epidemiology, Methodology

Joanna "Asia" Maselko (242), Social Epidemiology, Mental Health Epidemiology

Hazel B. Nichols (239), Cancer Epidemiology, Women's Health

Kari North (205), Cardiovascular Epidemiology, Genetic Epidemiology

Brian W. Pence (236), Infectious Disease Epidemiology, Mental Health Epidemiology, Implementation Science Research, Quantitative Epidemiologic Methods

Audrey Pettifor (215), Infectious Disease Epidemiology

Wayne D. Rosamond (162), Cardiovascular Epidemiology

Jennifer S. Smith (212), Infectious Disease Epidemiology, Cancer Epidemiology

Melissa A. Troester (226), Cancer Epidemiology

Daniel J. Westreich (235), Infectious Disease Epidemiology, Methodology, Reproductive and Perinatal Epidemiology, Pharmacoepidemiology

Associate Professors

Jessie Buckley, Environmental Epidemiology

Jessie Edwards (247), Infectious Disease Epidemiology, Methodology, Global Health

Michele Jönsson Funk (216), Pharmacoepidemiology, Women's Health

Chantel Martin (250), Social Epidemiology

Evan Mayo-Wilson, Pharmacoepidemiology

Charles L. Poole (193), Methodology

Kimberly A. Powers (237), Infectious Disease Epidemiology, Global Health

Shabbar Ranapurwala (254), Injury Epidemiology

Jaime Slaughter-Acey, Social Epidemiology, Maternal and Child Health Epidemiology

Caroline Thompson (253), Cancer Epidemiology

Assistant Professors

Ganga Bey, Social Epidemiology

Eboneé Butler, Cancer Epidemiology

Marc Emerson (251), Cancer Epidemiology

Lisa Gralinski, Public Health Virology, Infectious Disease Epidemiology

Shakia Hardy, Cardiovascular Epidemiology, Social Epidemiology

Juan Hincapie-Castillo (249), Pharmacoepidemiology, Legal Epidemiology, Health Services Research

Elizabeth McClure, Perinatal Epidemiology

Timothy Sheahan, Public Health Virology, Infectious Disease Epidemiology, Genetic Epidemiology

Mollie Wood (248), Pharmacoepidemiology

Research Professors

Nora Franceschini, Cardiovascular Epidemiology

William Miller, Infectious Disease Epidemiology, Clinical Epidemiology

Eric A. Whitsel (221), Cardiovascular Epidemiology

Research Associate Professors

Tania Desrosiers, Reproductive/Perinatal Epidemiology; Birth Defects

Andrew Edmonds, Infectious Disease Epidemiology

Mariaelisa Graff, Genetic Epidemiology

Anna Kucharska-Newton, Cardiovascular Epidemiology

Sonia Napravnik (223), Infectious Disease Epidemiology

Alexandra Schaefer, Infectious Disease Epidemiology

Anne Starling, Environmental Epidemiology, Chronic Disease Epidemiology, Infectious Disease Epidemiology

Weiming Tang, Infectious Disease Epidemiology

Kristin Young, Genetic Epidemiology, Health Disparities, Obesity Epidemiology

Research Assistant Professors

Christopher Baggett, Chronic Disease Epidemiology

Ross Boyce, Infectious Disease

Thibaut Davy-Mendez, Infectious Disease

Stephanie DeLong, Infectious Disease Epidemiology, Injury Epidemiology

Bethany DiPrete, Infectious Disease Epidemiology

Rachel Graham, Public Health Virology, Molecular Virology

Heather Highland, Genetic Epidemiology

Joseph Lemaitre, Infectious Disease

Sara Levintow, Infectious Disease Epidemiology, Methodology

Carl Pearson, Infectious Disease

Xiangji Ying, Methodology and Evidence Synthesis

Paul Zivich, Infectious Disease

Clinical Professors

Timothy S. Carey (138), Clinical Epidemiology
David F. Ransohoff (160), Health Care Epidemiology
Ross Simpson Jr., Cardiovascular Epidemiology, Clinical Epidemiology
Ronald Strauss, Dental Epidemiology, Social Impacts

Clinical Associate Professors

Lorraine Alexander, Public Health Preparedness, Distance Education

Patricia Basta, Cancer Epidemiology

Anissa Vines (245), Social Epidemiology, Health Care Epidemiology

Clinical Assistant Professors

Sara Berkeley, Cardiovascular Epidemiology

Teaching Professors

Karin Yeatts, Applied Epidemiology, Environmental Epidemiology

Adjunct Professors

Allison Aiello, Social Epidemiology, Infectious Disease Epidemiology

Donna D. Baird, Reproductive Epidemiology

Douglas Bell, Cancer Epidemiology

Florence Bodeau-Livinec, Perinatal and Pediatric Epidemiology

Jane H. Brice, Clinical Epidemiology, Cardiovascular Epidemiology

Donald Budenz, Ocular Epidemiology

Leigh Callahan, Chronic Disease Epidemiology, Health Care Epidemiology

Patricia Chang, Cardiovascular Epidemiology

Benjamin H. Chi, Clinical Epidemiology, Global Health, Reproductive Health

Dennis A. Clements, Infectious Disease Epidemiology

Evan Dellon, Health Care Epidemiology

Nancy Dreyer, Pharmacoepidemiology

Joseph Eron Jr., Infectious Disease Epidemiology

Kelly R. Evenson (209), Cardiovascular Epidemiology, Physical Activity

Aaron Fleischauer, Applied Epidemiology, Surveillance, Preparedness and Response

Robert Fletcher, Health Care Epidemiology

Suzanne Fletcher, Health Care Epidemiology

Alicia Gilsenan, Pharmacoepidemiology

Cynthia Girman, Pharmacoepidemiology

Laura Hanson, Clinical Epidemiology, Geriatrics

Louise Henderson, Health Services Research, Cancer Epidemiology

Jane Hoppin, Environmental Epidemiology

Cathrine Hoyo, Cancer Epidemiology

Michael Kappelman, Clinical Epidemiology, Pharmacoepidemiology

Jay Kaufman, Methodology, Social Epidemiology

Stephen Kritchevsky, Aging Epidemiology

Jay Levine, Veterinary Epidemiology

Stephanie London, Cancer Epidemiology

Matthew Longnecker, Environmental and Occupational Epidemiology

Timothy Mastro, Infectious Disease Epidemiology

Prema Menezes, Infectious Disease Epidemiology

David Peden, Environmental and Occupational Epidemiology

Miquel Porta, Cancer Epidemiology, Clinical Epidemiology, Pharmacoepidemiology

David Richardson, Cancer Epidemiology, Environmental Epidemiology

Dale Sandler, Environmental Epidemiology

Arlene Sena-Soberano, Infectious Disease Epidemiology

Nicholas Shaheen, Health Care Epidemiology

Mark Sherman, Molecular Epidemiology, Cancer Epidemiology

Ilene C. Siegler, Aging

Gary Slade, Oral Epidemiology

Betsy Sleath, Pharmacoepidemiology, Outcomes Research

Markus Steiner, Methodology

Jeffrey S. A. Stringer, Global Women's Health, HIV/AIDS in Women, Child Health

John Thorp Jr., Reproductive Epidemiology

Hugh H. Tilson, Pharmacoepidemiology

Anthony J. Viera, Hypertension, Cardiovascular Disease Prevention

Clarice Weinberg, Environmental and Reproductive Epidemiology

Allen J. Wilcox, Reproductive Epidemiology

David Wohl, Infectious Disease Epidemiology

Adjunct Associate Professors

Deverick Anderson, Health Care Epidemiology, Infection Prevention

Elizabeth B. Andrews, Pharmacoepidemiology

Kimon Divaris, Oral Epidemiology

Alan Ellis, Health Services Research, Mental Health Services Research

Sara Ephross, Chronic Disease Epidemiology

Yvonne Golightly, Injury Epidemiology

Virginia Guidry, Environmental and Occupational Epidemiology

Debra E. Irwin, Cancer Epidemiology, Reproductive Epidemiology

James Bradley Layton, Pharmacoepidemiology, Comparative Effectiveness Research

Thomas Luben, Environmental Epidemiology, Adverse Reproductive Outcomes

Pia MacDonald, Applied Epidemiology

Christina Mack, Pharmacoepidemiology, Comparative Effectiveness Research

Ugwuji Maduekwe, Cancer

Anne-Marie Meyer, Outcome Research, Comparative Effectiveness Research

Michelle Meyer, Cardiovascular, Epidemiology

David Miller, Pharmacoepidemiology, Molecular Epidemiology

Lucas Neas, Environmental Epidemiology

Amanda Nelson, Osteoarthritis

Matthew E. Nielsen, Clinical Epidemiology and Health Services, Cancer Outcomes

Whitney Robinson, Cancer

David Rosen, Social Epidemiology, Criminal Justice/Incarceration

Vani Vannappagari, Infectious Disease Epidemiology

Emily Vavalle, Infectious Disease Epidemiology

Timothy Wade, Environmental Epidemiology

Emmanuel Walter, Infectious Disease Epidemiology

Sharon S. Weir, Infectious Disease Epidemiology

Suzanne West, Health Care Epidemiology, Pharmacoepidemiology

Jose Zevallos, Cancer Epidemiology

Adjunct Assistant Professors

Emily Bratton, Infectious Disease Epidemiology, Pharmacoepidemiology, Cancer Epidemiology

Alexander Breskin, Epidemiologic Methods, Pharmacoepidemiology, HIV

Remy Coeytaux, Health Care Epidemiology

Jennifer Deese, Infectious Disease, Epidemiology

Mohamed El Hag Ahmed, Environmental/Occupational Epidemiology, Injury Epidemiology

Lydia Feinstein, Psychosocial Determinants of Health, Health Disparities in Aging

Kelly Ferguson, Reproductive Epidemiology, Environmental Epidemiology

Lindsay Fernandez-Rhodes, Genetic Epidemiology, Social Epidemiology

Mugdha Gokhale, Pharmacoepidemiology, Comparative Effectiveness Research

Christine Gray, Social Epidemiology, Environmental Epidemiology

Quaker Harmon, Reproductive and Perinatal Epidemiology

Jessica Islam, Cancer

Chandra Jackson, Social and Environmental Determinants of Health Equity

Candice Johnson, Occupational Epidemiology

Anne Jukic, Reproductive Epidemiology

James Lewis, Infectious Disease Epidemiology

Ann M. McNeill, Cardiovascular Epidemiology

Victoria Mobley, Infectious Disease Epidemiology

Keri Monda, Genetics, Obesity Epidemiology

Sarah Nyante, Cancer Epidemiology, Molecular Epidemiology

Priya Palta, Cardiovascular Epidemiology, Aging

Scott Proescholdbell, Injury Epidemiology

Erika Samoff, Infectious Disease Epidemiology

Melissa Stockton, Social Epidemiology

Steve M. Taylor, Malaria, Tropical Disease Epidemiology, Hemoglobin Disorders

Michael Udedi, Global Mental Health Research

Nadja Vielot, Infectious Disease, Global Health

Andres Villaveces, Injury Epidemiology

Catherine Vladutiu, Perinatal Epidemiology, Injury Epidemiology, Cardiovascular Epidemiology

Alexandra White, Cancer Epidemiology, Environmental Epidemiology

Rachel E. Williams, Health Care Epidemiology

Adjunct Instructor

Amy Ising, Public Health Informatics, Public Health Surveillance, Syndromic Surveillance

Professors Emeriti

Wilfrida Behets
Kathleen Dorsey
Barbara S. Hulka
Michel A. Ibrahim
Victor Schoenbach
J. Richard Seed
Carl M. Shy
James Thomas

Contact Information

Department of Epidemiology
Visit Program Website (http://sph.unc.edu/epid/)
2101 McGavran-Greenberg Hall
919-966-7430

Chair
Maria Gallo

DEPARTMENT OF EXERCISE AND SPORT SCIENCE (GRAD)

The mission of the Department of Exercise and Sport Science (EXSS) is to discover, create, and promote knowledge of human movement to improve the quality of life of individuals and society. Its vision is to transform society by developing leaders and translating scientific knowledge into practical applications. The department prepares individuals to function as scientists, educators, and practitioners. The program offers a master of arts degree in exercise and sport science with specialization in one of two areas: exercise physiology and sport administration. EXSS seeks to provide all students with focused, in-depth knowledge and skills, and an understanding of the challenges facing the areas of exercise physiology and sport administration as well as a global understanding of exercise and sport.

In pursuit of maximum fulfillment of its mission, the department also offers quality practical experiences to students. EXSS has an association with numerous other campus and local area units such as UNC Athletics, Emergency Medicine, Orthopedics, the Duke Center for Living, the Lineberger Comprehensive Cancer Center, Get Real and Heel, the Meadowmont Wellness Center, Campus Health Services, Carolina Adventures, and Campus Recreation. Supervised assistantships and internships outside the department help students develop practical skills in the specific fields of study. Furthermore, the requirement of a structured research experience for all master's degree students is an integral part of every student's program of study. Additional research experience opportunities are numerous, and it is an expectation of the department that graduate students will become actively involved in conducting research while studying at UNC–Chapel Hill.

Additional information regarding the Department of Exercise and Sport Science can be found at the department's website (https://exss.unc.edu/).

Admission

The master's degree program in exercise and sport science is open to individuals from diverse backgrounds. However, the majority of past entrants into the program have earned undergraduate degrees in exercise science, kinesiology, physical education, or sport administration/management. The department offers admission to the fall semester only. Potential applicants seeking admission information pertaining to their specific area of specialization should visit the EXSS Graduate Program Admissions page (http://exss.unc.edu/graduate-programs/admissions/).

Application Prerequisites and Requirements

Both areas of specialization within the Exercise and Sport Science Master of Arts program have specialization-specific prerequisite coursework and/or experiences for all applicants. Successful completion of an undergraduate statistics class is a prerequisite for both areas of specialization. All applicants must have had a statistics class, or other coursework that includes appropriate content and topics in statistical analysis. Applicants are strongly encouraged to satisfy the statistics prerequisite by having completed an undergraduate statistics class at the time of the application. Advanced Placement credit in statistics will not satisfy this prerequisite, only classes actually taken at the college level. For additional application and admissions information, see the department's website (https://exss.unc.edu/) or The Graduate School's website (http://gradschool.unc.edu/admissions/).

Assistantships

The Department of Exercise and Sport Science awards incoming students teaching and research assistantships to help fund the students' education and to provide practical experiences related to their area of study. Assistantships involve one or more of the following activities: research assistant, teaching assistant for lifetime fitness and physical activity courses, teaching assistant for the exercise and sport science laboratories, or athletic department assistant.

The Department of Exercise and Sport Science's graduate program offers a master of arts degree in exercise and sport science. Applicants to the program can choose between two areas of specialization: exercise physiology or sport administration. The minimum number of semester credit hours required by The Graduate School for the master of arts degree is 30. However, the minimum required by the sport administration track is 32. Required courses are determined by the faculty in each area of specialization. In addition to course requirements and other required curricular experiences, exercise physiology graduate students must pass a written comprehensive examination on all coursework. (Sport administration students must complete an approved substitute for the comprehensive exam in the form of two capstone courses.) All students must complete a research thesis, and successfully defend the thesis in a final oral examination.

Specialization Descriptions

Exercise Physiology

The mission of the exercise physiology specialization is to prepare students to pursue research careers in exercise physiology related fields, biomedical industries, or careers in the fitness/wellness industry. Biomedical and wellness careers include those in sport settings, those in hospital fitness centers or clinics, academic or industry research assistants/coordinators, or those within the biotechnology industry.

Students preparing for research careers or Ph.D. programs are provided an advanced understanding of how the physiological constructs are applied to exercise and the environment, as well as knowledge of the research process. Additionally, those students are provided the opportunity to develop laboratory techniques and acquire laboratory skills. Students preparing for a career in the fitness/wellness field are provided background, testing skills, and practical experience to succeed in a variety of settings. Many exercise physiology graduate students, no matter the area of focus, have presented research at national and regional science conferences, as well as other professional meetings.

Sport Administration

The mission of the sport administration specialization is to integrate theory and practice to prepare graduate students for leadership positions specifically within intercollegiate athletics. Within a two-year learning experience, the sport administration graduate student cohort, consisting of a highly select and diverse group of students from across the United States, engages in both formal coursework and intense practical experiences designed to prepare for a college sport administration career. During their first year, students are provided challenging coursework in administration, economics/finance, legal issues, sport marketing, governance and compliance, research methods/statistical analyses, and sport facility and event management. In addition, students engage in extensive hands-on event-operations experiences with the UNC Athletics Department. During the second year, students complete a full-time, one-year internship in an administrative area within the UNC Department of Athletics, a capstone two course sequence, and a research thesis.

Thirty-two hours of graduate coursework are required.The program's website (http://exss.unc.edu/graduate-programs/specializations/sport-administration/) contains additional information.

Law and Sport Administration Dual-Degree Program (J.D.–M.A.)

The dual-degree program provides an opportunity for students who are interested in both law and sport administration to earn both degrees over four years of study. Students benefit from a respected law curriculum, combined with a sport administration curriculum with a unique focus on intercollegiate athletics. There is a growing market in college athletics for professionals with both degrees. Graduates of the dual-degree program may work in athletic compliance and enforcement at a university, conference office, or national governing body such as the National Collegiate Athletic Association (NCAA). Legal positions in athletics departments, fundraising and development, and law firms that represent colleges and conferences are also likely. To be eligible to apply for the J.D.–M.A. dual-degree program, students must be currently enrolled in their second year in the UNC–Chapel Hill School of Law. Students will be responsible for paying tuition and fees separately to both the Law School and The Graduate School. The M.A. in exercise and sport science must be completed prior to or simultaneously with completion of the J.D. degree. Completion of the M.A. requires successful completion of all required exercise and sport science courses, a capstone two-course sequence, and a research thesis.

Business and Sport Administration Dual-Degree Program (M.B.A.–M.A.)

The dual-degree program provides an opportunity for students who are interested in both business administration and sport administration to earn both degrees over four years of study. The UNC–Chapel Hill Kenan–Flagler Business School (M.B.A.program) and the UNC–Chapel Hill Department of Exercise and Sport Science program offer a graduate dual-degree option. The M.B.A./M.A. (EXSS) dual program consists of a minimum of three (3) academic years of full-time study. Students must complete a minimum of 62.0 credit hours through the Kenan–Flagler Business School for the degree of master of business administration (M.B.A.) and a minimum of 32.0 credit hours through the Department of Exercise and Sport Science for the degree of master of arts (M.A. EXSS) in sport administration. M.B.A. dual-degree students are eligible to receive a maximum of 12.0 credit hours (just under 20 percent) of elective credits towards their M.B.A. degree requirements from courses completed within the EXSS program.

Ph.D. Study

The interdisciplinary program of study in human movement science is designed to provide students from various fields an opportunity to pursue doctoral studies in human movement science. The Department of Health Sciences grants the degree. Unique foci of the program are on maintaining health, preventing disability, and improving movement ability in persons with movement problems. The program provides training through a rigorous research curriculum of didactic and research experiences, and an interdisciplinary emphasis provided by faculty, coursework, and students. The curriculum combines core requirements for all students in the program while allowing for considerable flexibility in designing programs of study to meet the needs of a specific student's interests. A key feature of this program is the interdisciplinary orientation of faculty and the combined efforts of several successful programs that span across campus and beyond. The program reflects the ongoing interest, planning, and cooperation of the following departments and schools at UNC–Chapel Hill: the Department of Health Science's Division of Physical Therapy, the Department of Exercise and Sport Science, the joint UNC–NCSU Biomedical Engineering Program, the Gillings School of Global Public Health and its Department of Epidemiology, and the UNC School of Medicine's Department of Orthopedics and Department of Physical Medicine and Rehabilitation.

The mission of the program is to prepare scholars to be exceptional interdisciplinary researchers, educators, and leaders in the field of human movement. Program graduates will excel as independent researchers and future leaders in addressing scientific problems related to human movement in a global, integrated manner for the benefit of society. HMSC faculty members conduct applied and translational research using interdisciplinary approaches focused on healthy and impaired human movement. Research conducted through the program reflects the complexity and interdependence of the multiple systems underlying movement and ultimately will promote health and physical well-being. Students of varied academic disciplines are accepted into the program and study across the spectrum of sport injury epidemiology, biomechanics, exercise physiology, and neuromuscular control/motor learning. The curriculum's website (http://hmsc.unc.edu) contains additional information.

Distinguished Professors

Darin A. Padua, Anatomy, Biomechanics, Sports Medicine

Professors

Claudio L. Battaglini, Clinical Exercise Physiology, Exercise Assessment and Prescription
J. Troy Blackburn, Biomechanics, Neuromuscular Control, Sports Medicine
Anthony C. Hackney, Exercise Physiology, Metabolism and Endocrinology
Kristen L. Kucera, Sports/Occupational Injury Epidemiology, Musculoskeletal Disorders, Surveillance Exposure Assessment
Jason P. Mihalik, Traumatic Brain Injury, Sports-Related Traumatic Brain Injury
Barbara Osborne, Legal Issues, Sport Administration
Brian G. Pietrosimone, Sports Medicine, Joint Injury, Neuromuscular Control
Nels K. Popp, Revenue Generation within College Athletics, Sport Sales
Eric D. Ryan, Exercise Physiology, Muscle Function
Abbie E. Smith-Ryan, Exercise Physiology, Metabolism and Body Composition
Erianne A. Weight, College Sport Business (Entrepreneurship, Management, Finance)

Associate Professors

Erik D. Hanson, Clinical Exercise Physiology, Muscle Physiology, Immunology
Zachary Kerr, Epidemiology, Traumatic Brain Injury, Injury Prevention Evaluation
Michael D. Lewek, Biomechanics
Johna Register-Mihalik, Athletic Training, Sports Medicine
Erik A. Wikstrom, Athletic Training, Neuromuscular Control, Sports Medicine

Assistant Professors

Shelby E. Baez, Psychology of Sport Injury

Malia Blue, Cardiometabolic Health, Body Composition, Performance and Injury Risk
Jimikaye B. Courtney, Advanced Data Analytics
Adam W. Kiefer, Neuromuscular Control, Sports Medicine, Sports-Related Traumatic Brain Injury
Derek Monroe, Traumatic Brain Injury
Jessica R. Murfree, Sport Ecology

Teaching Professors

Alain J. Aguilar
Meredith A. Petschauer

Teaching Associate Professors

J.D. DeFreese
Kristin S. Ondrak
Anthony F. Patterson
Angela Pratt

Teaching/Clinical Assistant Professors

Rebecca L. Battaglini
Wayne McDonnell Jr.
Aliza K. Nedimyer
Olufemi Oluyedun

Research Associate Professor

Wesley R. Cole

Research Assistant Professor

Gena R. Gerstner

Lecturers

James Ayscue
Antony Cosby
John F. Brunner
Greg Moore
Shery Norris
James Strong
Nina Walker
Sunny Yu

Post-Doctoral Research Associates

Thomas Birchmeier
Aiden Chauntry
Katherine Collins
Daniel Corry
Hyunwook Lee
Aaron Sinnott
Jeb Struder

Adjunct Professors

David J. Berkoff, Orthopaedics
Deborah L. Givens, Allied Health Sciences
Kevin M. Guskiewicz, Sports Medicine, Anatomy
Stephen W. Marshall, Injury Prevention
Karen L. McCulloch, Allied Health Sciences
Todd Schwartz, Biostatistics

Adjunct Associate Professors

Kevin A. Carneiro, Physical Medicine Rehabilitation
Vicki S. Mercer, Allied Health Sciences

Adjunct Assistant Professors

Brad Bates
Avinash Chandran
Shawn Kane
Michael Mazzoleni
Leon R. Schimmelfing

Professor of the Practice

Richard A. Baddour

Professors Emeriti

M. Deborah Bialeschki
John E. Billing
Bonita L. Marks
Robert G. McMurray
Frederick O. Mueller
John M. Silva

Teaching Professor Emerita

Sherry Salyer

Advanced Undergraduate and Graduate-level Courses

EXSS 408. Theory and Application of Strength Training and Conditioning for Fitness Professionals. 3 Credits.
Students will learn to design an individualized fitness plan for a "healthy" adult for common fitness goals by assessing their movement and fitness, exercise leadership, and program design. This class, in part, prepares students for the NASM certified personal training (CPT) certification.

Rules & Requirements
Requisites: Prerequisites, EXSS 155 and EXSS 256; or EXSS 175 and EXSS 276.
Grading Status: Letter grade.

EXSS 409. Exercise Prescription for Special Populations. 3 Credits.
Exercise benefits everybody. This course will teach evidence-based information for developing, modifying and implementing fitness programs for individuals with chronic disease, metabolic, cardiac, pulmonary, and other issues deemed as special populations. The knowledge and skills attained in this course will enhance any basic personal training certification and give a better understanding of working with what could be considered the general public.

Rules & Requirements
Requisites: Prerequisites, EXSS 155 and EXSS 256, or EXSS 175 and EXSS 276; and EXSS 376.
Grading Status: Letter grade.

EXSS 410. Exercise Testing and Prescription. 4 Credits.
This course is designed to provide theoretical and practical knowledge in basic exercise testing and prescription for both healthy and select special populations. This course includes both lectures and a lab. Priority registration is given to EXSS- Fitness Professional students and permission to enroll is obtained by completing the form linked in the registration section in Connect Carolina.

Rules & Requirements
Requisites: Prerequisites, EXSS 155 and EXSS 256, or EXSS 175 and EXSS 276; and EXSS 376.
Grading Status: Letter grade.

EXSS 420. Program Planning in Recreation Services. 3 Credits.
This experiential course covers the concepts and skills used in program planning. Students apply their program planning skills to real-life situations and implement a recreation program for a community agency. Previously offered as RECR 420.

Rules & Requirements
IDEAs in Action Gen Ed: HI-SERVICE.
Grading Status: Letter grade.

EXSS 424. Sport Sales and Revenue Production Seminar. 3 Credits.
This course will analyze and produce skills essential to the revenue production and sales process commonly found in the sport business. In this class students will develop an understanding and appreciation for the sales and revenue-production process related to a sport franchise and/or organization.

Rules & Requirements
Requisites: Prerequisites, EXSS 221 and EXSS 322.
Grading Status: Letter grade.

EXSS 430. Introduction to Leadership and Group Dynamics. 3 Credits.
An analysis of the techniques, methods, and motives of group and community leaders. Special attention is focused upon the roles of organizational structure, personnel policies, and in-service training programs. Previously offered as RECR 430.

Rules & Requirements
Requisites: Prerequisite, EXSS 221.
Grading Status: Letter grade.

EXSS 433L. Exercise Technique. 1 Credits.
This course is designed to teach students how to lead and coach a group of individuals toward movement proficiency in common athletic-based exercises.

Rules & Requirements
Requisites: Prerequisites, EXSS 155 and EXSS 256; or EXSS 175 and EXSS 276.
Grading Status: Letter grade.

EXSS 450. Essentials of Corrective Exercise Training. 3 Credits.
Students will learn to explain, design, and execute a corrective exercise program to improve movement quality. Students will be introduced to skills such as range of motion, strength, and movement quality assessments. This class, in-part, prepares students for the NASM corrective exercise specialist (CES) certification.

Rules & Requirements
Requisites: Prerequisites, EXSS 155 and EXSS 256; or EXSS 175 and EXSS 276.
Grading Status: Letter grade.

EXSS 475. Functional Anatomy. 3 Credits.
This course provides an in-depth exploration of joint mechanics. It exposes students to motions of the cervical, thoracic, and lumbar spine as well as the extremities, and relates these concepts to movement of the body during specific activities.

Rules & Requirements
Requisites: Prerequisites, EXSS 155 and EXSS 256, or EXSS 175 and EXSS 276; and EXSS 385.
Grading Status: Letter grade.

EXSS 478. Sports Performance Training. 3 Credits.
This course focuses on the foundational knowledge needed to train athletes, including performance assessment, coaching exercise technique, and program design. This class, in part, prepares students for the NSCA Certified Strength and Conditioning Specialist (CSCS) certification.

Rules & Requirements
Requisites: Prerequisites, EXSS 155 and EXSS 256; or EXSS 175 and EXSS 276.
Grading Status: Letter grade.

EXSS 479. Performance Enhancement Specialization for Health Professionals. 1 Credits.
This course is designed for certified athletic trainers (ATC) and gives them advanced rehab and performance skills that can be used during an athlete's return to sport progression. Students will learn to assess movement quality and performance, lead an individual through common strength and conditioning exercises, and write a basic performance plan based on NASM strategies. This class, in-part, prepares students for the NASM performance enhancement specialist (PES) certification.

Rules & Requirements
Requisites: Prerequisites, EXSS 155 and EXSS 256, or EXSS 175 and EXSS 276; and EXSS 366 and EXSS 368.
Grading Status: Letter grade.

EXSS 493. Field Experience in Sport Administration. 3 Credits.
This field experience offers implementation of theory and the practical application of sport administration in a sport organization worksite, under the direct supervision of a business professional.

Rules & Requirements
IDEAs in Action Gen Ed: HI-INTERN.
Requisites: Prerequisites, EXSS 221 and at least two of the following: EXSS 322, 323, 324, 326; permission of the instructor required for students lacking the prerequisites.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Pass/Fail.

EXSS 573. Sport Injury Epidemiology. 3 Credits.
This course will introduce the student to the public health importance and epidemiology of injuries and other medical conditions in sport and physical activity. Previously offered as EXSS 373.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Requisites: Prerequisite, EXSS 273, PSYC 210, or appropriate statistics course with permission of instructor.
Grading Status: Letter grade.

EXSS 576. Exercise Endocrinology. 3 Credits.
Advanced course examining the responses of the endocrine system to exercise and the adaptations that occur with exercise training. Provides the fundamentals necessary for exercise science and allied health science students to understand the integral role that the endocrine system plays in exercise.

Rules & Requirements
Requisites: Prerequisites, EXSS 155 and EXSS 256, or EXSS 175 and EXSS 276; and EXSS 376.
Grading Status: Letter grade.

EXSS 580. Neuromechanics of Human Movement. 3 Credits.
This course explores interactions between the nervous and musculoskeletal systems via integration of concepts from neuroanatomy, neurophysiology, anatomy, neuromuscular control, and biomechanics. Topics include muscle mechanics, sensorimotor function, joint stability, movement disorders, neurocognition, and neuroplasticity following injury and disease.

Rules & Requirements
Requisites: Prerequisites, EXSS 155 or EXSS 175; and EXSS 380 and EXSS 385.
Grading Status: Letter grade.

EXSS 581. Biopsychosocial Aspects of Sport Injury. 3 Credits.
This course is designed to explore the theory and research related to the biopsychosocial approach to treating patients experiencing sport injury and undergoing rehabilitation. Application and synthesis of biopsychosocial theories and biopsychosocial therapy interventions into sport injury research and clinical practice will occur. The focus is on theory and application of various psychological concepts.

Rules & Requirements
Grading Status: Letter grade.

EXSS 590. Special Topics in Exercise and Sport Science. 3 Credits.
Variable topics course in exercise and sports science for undergraduate and graduate students.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 6 total credits. 2 total completions.
Grading Status: Letter grade.

EXSS 593. Practicum in Physical Fitness and Wellness. 1-9 Credits.
A field experience (i.e., internship) in a local fitness & wellness or strength and conditioning setting designed for students to apply their classroom knowledge and skills, in a worksite of their choice, under the direct supervision of certified professionals. This class is only open to EXSS - Fitness Professional students. Permission to enroll is obtained by attending a practicum Permission to enroll is obtained by attending a practicum registration meeting one semester in advance.

Rules & Requirements
IDEAs in Action Gen Ed: HI-INTERN.
Requisites: Prerequisites, EXSS 220, 380 or 385, 408 or 478, and 410.
Repeat Rules: May be repeated for credit. 9 total credits. 9 total completions.
Grading Status: Pass/Fail.

EXSS 693H. Senior Honors Thesis. 3 Credits.
Required preparation, a cumulative grade point average meeting the University standard and permission of the department. Directed independent research under the supervision of a faculty advisor who teaches in the exercise and sport science curriculum.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Requisites: Prerequisite, EXSS 273.
Grading Status: Letter grade.

EXSS 694H. Senior Honors Thesis. 3 Credits.
Required preparation, a cumulative grade point average meeting the University standard and permission of the department. Preparation of an honors thesis and an oral examination on the thesis.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Requisites: Prerequisite, EXSS 273.
Grading Status: Letter grade.

Graduate-level Courses

EXSS 700. Applied Statistics and Research Methods in Exercise and Sport Science. 3 Credits.
Required preparation, undergraduate statistics course. Applied statistical analysis - interpretation of data from exercise and sport science. Emphasis: choosing method of analysis, using statistics software to run analyses. Major topics: experimental and nonexperimental research design, sampling, hypothesis testing, power calculation, t-tests, ANOVA, correlation, simple and multiple regression, and chi square.

Rules & Requirements
Grading Status: Letter grade.

EXSS 705. Research Design and Methods. 1-3 Credits.
Required preparation, any undergraduate statistics course. Builds heavily upon material presented in EXSS 700. Planning, conducting, and reporting of research. Thesis writing and writing for publication. Problem-solving and practical experience in applied statistical analysis, interpretation, and presentation of data from the field of exercise and sport science.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 3 total credits. 3 total completions.
Grading Status: Letter grade.

EXSS 730. Management of Athletic Injuries. 3 Credits.
Permission of the instructor for nonmajors. Designed to provide basic knowledge and skills that aid in the prevention and treatment of injuries common to athletics.

Rules & Requirements
Grading Status: Letter grade.

EXSS 732. Human Anatomy for Athletic Trainers. 4 Credits.
Graduate standing in exercise and sport science or permission of the instructor. The study of gross human anatomy, with emphasis on the functional and clinical aspects of the neck, back, and extremities as related to athletic injuries.

Rules & Requirements
Grading Status: Letter grade.

EXSS 733. Psychological Considerations for Injury and Rehabilitation. 3 Credits.
Athletic training graduate students only. Psychological impact of injury and rehabilitation on the injured athlete. Stress from injury, coping skills for the rigors of rehabilitation, and the improvement of communication skills in order to better the relationship between the athletic trainer, the injured athlete, and the injured athlete's coach.

Rules & Requirements
Grading Status: Letter grade.

EXSS 735. Sports Medicine Analysis: Special Problems Related to Sports Medicine. 3 Credits.
Permission of the instructor for nonmajors. Problem and research oriented.

Rules & Requirements
Grading Status: Letter grade.

EXSS 736. Clinical Methods in Athletic Training. 3 Credits.
Analysis of theories and techniques used in clinical sports medicine settings.

Rules & Requirements
Requisites: Prerequisite, EXSS 730.
Grading Status: Letter grade.

EXSS 737. Advanced Muscular Assessment and Treatment. 3 Credits.
Discussion of mechanical properties and healing of musculoskeletal tissues throughout the life cycle, and laboratory/seminar units concerned with assessment and treatment of musculoskeletal pathology.

Rules & Requirements
Requisites: Prerequisites, EXSS 730, 732, and 736; Permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

EXSS 738. Laboratory Techniques in Sports Medicine. 3 Credits.
This course provides an introduction to measurement techniques used in sports medicine/athletic training research. Course meetings involve lecture and laboratory sessions which encompass data collection, analysis, and interpretation techniques.

Rules & Requirements
Grading Status: Letter grade.

EXSS 739. Practicum in Exercise, Sport, and Movement Science. 1-3 Credits.
Graduate standing in exercise and sport science or permission of the instructor. The implementation of theories and practices in a professional setting under the direction of a professional with expertise in exercise, sport and/or movement science.

Rules & Requirements
Repeat Rules: May be repeated for credit. 3 total credits. 3 total completions.
Grading Status: Letter grade.

EXSS 740. Administration of Sport. 3 Credits.
Permission of the instructor for nonmajors. Policies and problems of organization and administration of athletic programs in colleges.

Rules & Requirements
Grading Status: Letter grade.

EXSS 742. Social Issues in Exercise and Sport. 3 Credits.
A comprehensive study of race and gender discrimination, adherence, value development, violence, and other socialization factors in youth, collegiate, and Olympic sport.

Rules & Requirements
Grading Status: Letter grade.

EXSS 744. Collegiate Sport Marketing. 3 Credits.
Graduate standing required. This course is designed to develop a thorough understanding of sport marketing principles and their application to collegiate athletics.

Rules & Requirements
Grading Status: Letter grade.

EXSS 746. Organizational and Financial Management of Sport. 3 Credits.
Graduate standing in exercise and sport science or permission of the instructor. The study of administrative structures and financial concerns of collegiate athletic programs. An intensive study of NCAA regulations is included.

Rules & Requirements
Grading Status: Letter grade.

EXSS 747. College Sport Facility and Event Management. 3 Credits.
This course provides students with necessary knowledge and skills to manage college-sport facilities and plan a complete sport event. Students also evaluate facility functions related to risk and event management.

Rules & Requirements
Grading Status: Letter grade.

EXSS 748. Legal Issues in Collegiate Sport. 3 Credits.
Provides an introduction to the United States legal system, legal principles, and legal issues related to intercollegiate athletics.

Rules & Requirements
Grading Status: Letter grade.

EXSS 749. NCAA Governance and Compliance. 3 Credits.
The implementation of theories and practices in a professional setting under the direction of a competent practitioner.

Rules & Requirements
Requisites: Prerequisite, EXSS 740.
Grading Status: Letter grade.

EXSS 750. Sport Administration Leadership Seminar I. 1 Credits.
Successful completion of first year in sport administration graduate program. An introduction of organizational leadership concepts in a practical applied context. Students will lead class discussion tying relevant current events with leadership theory.

Rules & Requirements
Grading Status: Letter grade.

EXSS 751. Sport Administration Leadership Seminar II. 1 Credits.
Successful completion of first year in sport administration graduate program. An introduction of organizational leadership concepts in a practical applied context. Students will lead class discussion tying relevant current events with leadership theory.

Rules & Requirements
Grading Status: Letter grade.

EXSS 770. Motor Learning. 3 Credits.
A study of the physical and psychological factors that influence skill acquisition and performance in sport and exercise, including applications to teaching and coaching.

Rules & Requirements
Requisites: Prerequisite, EXSS 380; Permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

EXSS 780. Physiology of Exercise. 3 Credits.
The study of the physical, biochemical, and environmental factors that influence human performance. Emphasis is placed on metabolic, cardiovascular, respiratory, muscular, and endocrine systems. Three hours of lecture and two hours of laboratory per week.

Rules & Requirements
Requisites: Prerequisites, EXSS 256 or EXSS 276 or EXSS 376.
Grading Status: Letter grade.
Same as: HMSC 702.

EXSS 781. Clinical Exercise Prescription and Testing. 2-3 Credits.
This course concentrates on the knowledge and skills necessary for providing exercise testing and prescription in the clinical setting, emphasizing cardiac rehabilitation.

Rules & Requirements
Requisites: Prerequisite, EXSS 376; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

EXSS 782. Nutritional Aspects of Exercise. 2-3 Credits.
Graduate standing in physical education or permission of the instructor. Exploration of the role of macronutrients and micronutrients as they apply to exercise, physical conditioning, and competition. Students obtain experience in dietary analysis as it applies to athletic populations.

Rules & Requirements
Grading Status: Letter grade.

EXSS 783. Assessment of Physiological Functions in Exercise. 3 Credits.
Designed to develop laboratory techniques and experimental design skills as applied to the physiology of human performance.

Rules & Requirements
Requisites: Prerequisite, EXSS 780; Permission of the instructor for students lacking the prerequisite.
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

EXSS 784. Advanced Topics in Exercise Physiology. 3 Credits.
Required preparation, completion of a graduate level exercise physiology course. Graduate standing required. This course deals with current and rapidly developing aspects of the exercise physiology field. Specifically enhancing and adding to the content area of basic physiology acquired in EXSS 780.

Rules & Requirements
Grading Status: Letter grade.

EXSS 785. Seminar in Exercise Physiology. 3 Credits.
Graduate standing in exercise and sport science or permission of the instructor. In-depth study of selected advanced topics in exercise physiology. Emphasis on metabolism, biochemical, and cardiorespiratory physiology, with student presentations on selected topics.

Rules & Requirements
Grading Status: Letter grade.

EXSS 789. Practicum in Exercise Physiology. 3-4 Credits.
The implementation of theories and practices of fitness or cardiac rehabilitation in a professional setting under the direction of an experienced practitioner.

Rules & Requirements
Requisites: Prerequisite, EXSS 410L, 780, or 781; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

EXSS 890. Special Topics in Exercise and Sport Science. 1-3 Credits.
Graduate standing or permission of the instructor. The study of special topics directed by an authority in the field.

Rules & Requirements
Grading Status: Letter grade.

EXSS 990. Research in Exercise and Sport Science. 1-3 Credits.
Graduate standing in exercise and sport science or permission of the instructor. Individually designed research projects conducted by students under the direction of a graduate faculty member.

Rules & Requirements
Grading Status: Letter grade.

EXSS 993. Master's Research and Thesis. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

Contact Information

Department of Exercise and Sport Science
Visit Program Website (https://exss.unc.edu/)

Department Chair
J. Troy Blackburn

Executive Assistant
Jennifer Canders

CURRICULUM IN GENETICS AND MOLECULAR BIOLOGY (GRAD)

The Curriculum in Genetics and Molecular Biology is an interdepartmental predoctoral training program leading to a Ph.D. degree in genetics and molecular biology. The goal of this program is to train students to be creative, sophisticated research scientists within the disciplines of genetics and molecular biology. To this end, we emphasize acquisition of a foundation of knowledge, accumulation of the laboratory skills required for implementing research objectives, development of the ability to formulate experimental approaches to solving contemporary problems in the biological sciences, and completion of an original research project. During their first year, students enroll in graduate-level courses and participate in laboratory rotations. Subsequently, students select a faculty research advisor and establish an advisory committee. Research work is done in the laboratory facilities of the individual faculty member and is supported primarily by faculty research grants.

The curriculum faculty have appointments in 14 departments in the School of Medicine, the School of Dentistry, the Eshelman School of Pharmacy, and the College of Arts and Sciences. The faculty represent diverse research interests that use the tools of genetics, molecular biology, and biochemistry to address fundamental questions in the areas of cell cycle regulation, chromosome structure, development and disease models, DNA repair and recombination, genome stability, evolutionary genetics, genomics, human genetics, neurobiology, pathogens and immunity, signal transduction, transcription, gene regulation, and virology. Students are able to choose from a variety of biological systems and questions for their thesis research.

Genetics and Molecular Biology, Ph.D.

The Curriculum in Genetics and Molecular Biology (GMB) is an interdepartmental PhD program whose mission is (1) to train students from diverse backgrounds to earn a PhD in the fields of genetics, genomics, and molecular biology by guiding them through the acquisition of essential elements of the PhD, including responsible achievement of significant original research; and (2) to provide opportunities for learning about the breadth of careers in research and research-related fields and acquiring the skills and experiences that will facilitate the transition into such careers.

Course Requirements

Code	Title	Hours
Core Courses		
GNET 621	Principles of Genetic Analysis I	3
GNET 632	Advanced Molecular Biology II	3
or GNET 631	Advanced Molecular Biology	
Seminars		
GNET 701	Genetic Lecture Series (Fall of Year 2 and 3)	2
GNET 702	Student Seminars (Spring of Year 2 and 3)	2
GNET 703	Student Seminars (Fall and Spring of Year 2 and 3)	4
Journal Club		
Select a course from the Journal Club electives below for a minimum credit of 1 or more. [1]		1
Electives		
Students must complete a minimum of 6 credit hours of elective courses. Elective courses can be fulfilled by combining multiple module courses for a total of 3 credit hours. One of the elective courses must have a quantitative, computational, or statistical focus. Select from the elective course options below or any 600+ level STEM course. [1]		6
Thesis/Substitute or Dissertation		
GNET 994	Doctoral Research and Dissertation [2]	3
Minimum Hours [3]		**41**

[1] These lists are not exclusive and additional courses approved by the DGS may fulfill these requirements.
[2] Students must take GNET 994 twice for a minimum of 6 credit hours.
[3] Please note that this does not include the hours you must complete during the first-year Biological & Biomedical Sciences Program.

Code	Title	Hours
Journal Club Electives		
GNET 625	Seminar in Genetics	
GNET 801	Cell Cycle Regulation and Cancer	
BIOC 702	Advanced Topics in Chromatin and Epigenetics	
BIOL 639	Seminar in Plant Molecular and Cell Biology	
BIOL 649	Seminar in Cell Biology	
CBPH 850	Human Physiology I	
PATH 725	Cancer Pathobiology	
PATH 766	Current Topics in Cardiovascular Biology	
PATH 767	Molecular and Cellular Biology of Cardiovascular Diseases	

Code	Title	Hours
Module Electives		
GNET 645	Quantitative Genetics of Complex Traits	
GNET 646	Mouse Models of Human Disease	
GNET 647	Human Genetics and Genomics	
GNET 730	Fundamentals of Quantitative Image Analysis for Light Microscopy	
GNET 742	Introduction to UNIX and Perl Programming for biomedical data analysis	
GNET 747	Development of New Applications for Next Generation Sequencing	
GNET 749	Practical RNA-Seq	

Milestones

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 27) for more information.

- Doctoral Committee
- Doctoral Oral Comprehensive Exam
- Doctoral Written Exam
- Prospectus Oral Exam
- Dissertation Defense
- Doctoral Dissertation Approved/Format Accepted
- Residence Credit
- Doctoral Exit Survey

- Doctoral Teaching Experience
- Doctoral Manuscript Submission

Professors

Shawn Ahmed, Telomere Replication and Germline Immortality in *C. elegans*
Albert S. Baldwin, Regulation of Gene Expression, Control of Oncogenesis and Apoptosis
Victoria Bautch, Molecular Genetics of Blood Vessel Formation in Mouse Models
Jonathan Berg, Clinical Adult and Cancer Genetics
Kerry Bloom, Chromosome Dynamics, Centromere Structure and Function, Polymer Models of Chromosomes, Aneuploidy
Patrick Brennwald, Cell Biology and Physiology
Kathleen Caron, Genetically Engineered Animal Models in the Study of Human Disease
Frank L. Conlon, Mesodermal Patterning and Heart Development, T-Box Genes
Jeanette Gowen Cook, Integrating DNA Replication Control with Checkpoint Signaling
Gregory P. Copenhaver, Regulation of Meiotic Recombination in Higher Eukaryotes
Blossom Damania, Viral Oncogenes, Signal Transduction, Transcription and Immune Evasion of KSHV/RRV
Jeffery L. Dangl, Plant Disease Resistance and Cell-Death Control, Plant Genomics
Ian Davis, Mechanisms of Transcription Factor Deregulation in Cancer Development
Channing J. Der, Oncogenes, Ras Superfamily Protein, Signal Transduction
Dirk P. Dittmer, Anti-Lymphoma Therapies
Bob Duronio, Genetics of Cell-Cycle Control during *Drosophila* Development
Michael Emanuele, Cell Cycle Regulation by the Ubiquitin System
Bob Goldstein, Generation of Cell Diversity in Early Development of *C. elegans*
Mark Heise, Genetics of Arbovirus Virulence and Immune Evasion
Corbin D. Jones, Population Genetics and Evolution in *Drosophila*
Jonathan Juliano, Malaria Drug Resistance, Diversity and Population Evolution
Joseph Kieber, Molecular Genetic Analysis of Hormone Signaling in *Arabidopsis*
William Kim, Exploration of the Role of Hypoxia-Inducible Factor in Tumorigenesis
Amy Shaub Maddox, Mechanisms of Cell Shape Change
Terry Magnuson, Mammalian Genetics, Epigenetics, Genomics
William F. Marzluff, Regulation of RNA Metabolism in Animal Cells
A. Gregory Matera, Biogenesis of Small Ribonucleoproteins in Health and Disease
Daniel Matute
Karen L. Mohlke, Human Genetics and Genomics, Diabetes, Complex Diseases
Fernando Pardo-Manuel de Villena, Meiotic Drive, Chromosome Segregation, Non-Mendelian Genetics
Chad Pecot, Solid Tumor Malignancies
Mark Peifer, Cell Adhesion, Signal Transduction and Cancer
Charles Perou, Genomic and Molecular Classification of Human Tumors to Guide Therapy
Jeremy Purvis, Signal Transduction in Cancer and Stem Cells
Dale Ramsden, V(D)J Recombination, DNA Double Strand Break Repair
Jason W. Reed, Plant Development, Auxin Signaling, Light Responses
Aziz Sancar, Structure and Function of DNA Repair Enzymes, Biological Clock
Jeff Sekelsky, Genetics of Genome Instability in *Drosophila*
Shehzad Sheikh, Immune Responses to the Microbiome in Crohn's Disease and Ulcerative Colitis
Brian Strahl, Histone Modifications and Gene Regulation
Lisa Tarantino, Genetic Mapping of Complex Behavioral Traits
Nancy Thomas, Molecular Epidemiological and Translational Studies of Melanoma
Cyrus Vaziri, Integration of DNA Replication and Repair
Jason Whitmire, Genetic Regulation of T Cell Responses to Virus Infection

Associate Professors

J. Mauro Calabrese, Epigenetic Control by Long Noncoding RNAs, Genomics, Stem Cells, Cancer, Human Genetic Disorders
Jill Dowen, Three-Dimensional Genome Architecture and Gene Regulation in Development and Disease
Jimena Giudice, Alternative Splicing, Epigenetic and Intracellular Trafficking in Heart and Skeletal Muscle Development and Diseases
Gaorav Gupta, Genome Integrity in Breast Cancer
Nate Hathaway, Mechanisms of Mammalian Genome Regulation, Chemical Biology and Drug Discovery
Erin Heinzen, Identification and Functional Characterization of Highly Penetrant Risk Factors in Neurodevelopmental Disorders
Kathryn Hoadley, Integrative Genomic Characterization of Cancer and Precancer
Folami Ideraabdullah, Genetics, Toxicants, and Nutrition: Gene-Environment Interactions in Epigenetic Gene Regulation
Jonathan Juliano, Malaria Drug Resistance, Diversity and Population Evolution
Samir Kelada, Genetics and Genomics of Environmentally Induced Asthma
Sarah Linnsteadt, Genetic and Transcriptional Mechanisms of Increased Chronic Pain and PTSD
Pengda Liu, Biochemistry and Biophysics
Daniel McKay, Developmental Genomics, Regulation of Gene Expression
Zachary Nimchuk, Plant Developmental Genetics and Stem Cell Regulation
Chad Pecot, Biology of Metastatic Cancer, Sirna Regulation of Gene Expression in Tumors
Douglas Phanstiel, Molecular Mechanisms Underlying Acquisition of Disease States in Cells
Yuliya Pylayeva-Gupta, Immunomodulatory Mechanisms in Pancreatic Cancer and Metastasis
Gregory Scherrer, Genetic and Molecular Mechanisms of Pain Perception and Opioid Receptor Function
Celia Shiau, Function and Development of Macrophages and Brain Microglia; Inflammation and Innate Immune Activation
Karl Shpargel, Roles of Chromatin-Modifying Enzymes in Developmental Epigenetics and Disease
Keriayn Smith, Context Specific Functions of Long Noncoding RNAs
Jason Stein, Genome Variation that Affects the Structure and Development of the Brain and Risk for Neuropsychiatric Illness
Scott Williams, Asymmetric Cell Division in Development and Disease, Epithelial Differentiation
Hyejung Won, Genetics of Psychiatric Illnesses and Neurobiological Mechanisms
Melinda Yates, Cancers that Form in the Lining of the Uterus (Endometrium)

Assistant Professors

Katie Baldwin, Cellular and Molecular Mechanisms of Astrocyte Development in the Mammalian Brain
Jiakun Chen, Fundamental Mechanisms of how Astrocytes Contribute to Nervous System Formation and Function
Rob Dowen, Regulation of Fat Metabolism During Development, Aging, and Disease
Whitney Edwards, The Cellular Processes Essential for Cardiac Development and Determine how these Processes Are Altered in CHDs
Kacy Gordon, Development and Evolution of the Germ Line Stem Cell Niche
Qingyun Liu, Bacterial Evolution; Population Genomics; Natural Selection; Infectious Disease; Mycobacterium Tuberculosis; Nontuberculosis Mycobacteria (NTM); Antibiotic Resistance; Transmissibility; Virulence; Pathogenicity
Robert Mealer, Schizophrenia Genetics; Protein Glycosylation; Molecular Neuroscience
Brian C Miller, Developing Personalized Cancer Immunotherapies by Targeting Myeloid Cells
Justin Milner, Transcriptional and Epigenetic Regulation of T Cell Differentiation During Infection and Cancer
John Morris IV, Modeling Mechanisms of Epigenetic and Genomic Heterogeneity that Connect Cancer Driver Mutations with Malignant Identity
Jonathan Parr, Molecular Epidemiology and Evolution of Infectious Diseases
Jesse Raab, Regulation and Function of Altered Chromatin Remodeling Complex Activity
Laura Raffield, Environmental Risk Factors for Cardiometabolic Diseases, Alzheimer's Disease and Related Dementias, and Related Quantitative Traits
Christoph Rau, The Transcriptomic and Epigenomic Landscape Underlying Cardiovascular Disorders
Ageliki Tsagaratou, Epigenetic and Transcriptional Regulation in T Cell Differentiation, Function and Disease
Anthony Zannas, Biomolecular Mechanisms Linking Psychosocial Stress with Disease Risk

GNET

Advanced Undergraduate and Graduate-level Courses

GNET 603. MiBio Seminar. 2 Credits.
This class is designed to 1) enhance students' ability to present scientific material to their peers in a comprehensive, cohesive manner, 2) familiarize students with scientific concepts and technologies used in multiple disciplines, 3) expose students to cutting edge research, 4) prepare students to gain substantial meaning from seminars and to ask questions, and 5) enhance students' ability to evaluate scientific papers and seminars.

Rules & Requirements
Grading Status: Letter grade.
Same as: BIOC 603, BIOL 603, CBPH 603.

GNET 621. Principles of Genetic Analysis I. 3 Credits.
Genetic principles of genetic analysis in prokaryotes and lower eukaryotes.

Rules & Requirements
Requisites: Prerequisite, BIOL 202 or BIOL 220; or permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Same as: BIOL 621.

GNET 622. Principles of Genetic Analysis II. 4 Credits.
Principles of genetic analysis in higher eukaryotes; genomics.

Rules & Requirements
Requisites: Prerequisite, BIOL 621.
Grading Status: Letter grade.
Same as: BIOL 622.

GNET 623. Developmental Genetics Seminar. 1 Credits.
Permission of the instructor. Presentations of current research or relevant papers from the literature on development by students will be followed by open forum discussion of relevant points, and critique of presentation skills. Two hours per week.

Rules & Requirements
Grading Status: Letter grade.

GNET 624. Developmental Genetics. 3 Credits.
Permission of the instructor for undergraduates. Genetic and molecular control of plant and animal development. Extensive reading from primary literature.

Rules & Requirements
Grading Status: Letter grade.
Same as: BIOL 624.

GNET 625. Seminar in Genetics. 2 Credits.
Permission of the instructor for undergraduates. Current and significant problems in genetics. May be repeated for credit.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 6 total completions.
Grading Status: Letter grade.
Same as: BIOL 625.

GNET 631. Advanced Molecular Biology. 4 Credits.
This course explores cutting edge research in molecular biology -- the investigation at molecule-scale of the mechanisms behind life. We briefly review core-principles in molecular biology, then investigate more recent research that extends or overturns these core principles.

Rules & Requirements
Requisites: Prerequisites, BIOL 202, or BIOL 220, or CHEM 430, and permission of the course director.
Grading Status: Letter grade.
Same as: BIOC 631, BIOL 631, MCRO 631.

GNET 632. Advanced Molecular Biology II. 3 Credits.
Required preparation for undergraduates, at least one undergraduate course in both biochemistry and genetics. The purpose of this course is to provide historical, basic, and current information about the flow and regulation of genetic information from DNA to RNA in a variety of biological systems. Three lecture hours a week.

Rules & Requirements
Grading Status: Letter grade.
Same as: BIOC 632, BIOL 632, MCRO 632.

GNET 635. Clinical and Counseling Aspects of Human Genetics. 3 Credits.
Topics in clinical genetics including pedigree analysis, counseling/ethical issues, genetic testing, screening, and issues in human research. Taught in a small group format. Active student participation is expected.

Rules & Requirements
Requisites: Prerequisite, BIOL 425; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Same as: BIOL 529.

GNET 645. Quantitative Genetics of Complex Traits. 1 Credits.
Students will learn about various topics that form the basis for understanding quantitative genetics of complex traits with biomedical and agricultural relevance. The ultimate goal of quantitative genetics in this postgenomic era is prediction of phenotype from genotype, namely deducing the molecular basis for genetic trait variation.

Rules & Requirements
Grading Status: Letter grade.
Same as: BCB 645.

GNET 646. Mouse Models of Human Disease. 1 Credits.
This course will focus on the laboratory mouse as a model organism to learn fundamental genetic concepts and understand how state-of-the-art experimental approaches are being used to elucidate gene function and the genetic architecture of biological traits.

Rules & Requirements
Grading Status: Letter grade.
Same as: NUTR 646.

GNET 647. Human Genetics and Genomics. 1 Credits.
The course covers principles and modern approaches of human genetics and genomics, including human genetic variation, linkage, genome-wide association analysis, sequencing for variant discovery in monogenic and complex diseases, regulatory variation, the molecular basis of human disease, and functional validation of disease variants.

Rules & Requirements
Grading Status: Letter grade.

GNET 655. Issues in Human Genetics. 1 Credits.
This course will provide an overview of methods in human genetics during the critical reading of selected literature and work of speakers that will present in the Friday Seminar Series.

Rules & Requirements
Grading Status: Letter grade.

GNET 675. Computational Genetics. 1 Credits.
A course on systems genetics focused on student participation and the development of targeted multidisciplinary responses to genetic questions.

Rules & Requirements
Grading Status: Letter grade.

GNET 680. Modeling Human Diseases in Mice. 1 Credits.
Permission of the instructor. This course will provide an overview of the use of the mouse as an experimental model for determining factors, both genetic and environmental, that contribute to human diseases. One seminar hour a week.

Rules & Requirements
Grading Status: Letter grade.

GNET 701. Genetic Lecture Series. 1 Credits.
Diverse but current topics in all aspects of genetics. Relates new techniques and current research of notables in the field of genetics.

Rules & Requirements
Grading Status: Letter grade.
Same as: BIOL 711.

GNET 702. Student Seminars. 1 Credits.
Required of all candidates for the degree in genetics. A course to provide public lecture experience to advanced genetics students. Students present personal research seminars based on their individual dissertation projects. Lectures are privately critiqued by fellow students and genetics faculty.

Rules & Requirements
Grading Status: Letter grade.
Same as: BIOL 702.

GNET 703. Student Seminars. 1 Credits.
Required of all candidates for the degree in genetics. A course to provide public lecture experience to advanced genetics students. Students present personal research seminars based on their individual dissertation projects. Lectures are privately critiqued by fellow students and genetics faculty.

Rules & Requirements
Grading Status: Letter grade.
Same as: BIOL 713.

GNET 722. Population Genetics. 1 Credits.
This short course will cover methods of inferring/estimating natural selection, including the Dn/Ds ratio, the McDonald-Kreitman test, and the Poisson Random Field model. The course will feature discussions of high-profile publications that describe the application of these methods to yield insights into the forces that have shaped organismal evolution.

Rules & Requirements
Grading Status: Letter grade.
Same as: BCB 722.

GNET 730. Fundamentals of Quantitative Image Analysis for Light Microscopy. 1 Credits.
This course is a practical introduction to quantitative analysis of light microscopy images. During the class students will follow tutorials that will guide them through common tasks in analysis of biological images. They will be introduced to basic concepts of image processing like image registration, filtering, object detection etc.

Rules & Requirements
Grading Status: Letter grade.
Same as: CBPH 730, BCB 730.

GNET 742. Introduction to UNIX and Python Programming for Biomedical Data Analysis. 1 Credits.
This module will introduce UNIX and Python programming. It is mainly targeted towards biomedical scientists who would be able to use Python to analyze, transform, and manage large datasets.

Rules & Requirements
Grading Status: Letter grade.

GNET 743. Introductory Statistical Analysis in R for Biomedical Scientists. 1 Credits.
This module will introduce the data analysis environment R and use it to illustrate basic concepts in data manipulation, plotting of complex data, and basic statistical modeling. Class examples will be general and will aim to build familiarity and confidence with R and data analysis.

Rules & Requirements
Grading Status: Letter grade.

GNET 744. Biological Sequence Analysis, Protein-Structure, and Genome-Wide Data. 2 Credits.
This module provides an introduction to basic protein structure/function analyses combining sequence informatics and macromolecular structure. In the second half the focus will switch to analysis of genome-wide datasets and methods used for the analysis of such "big data."

Rules & Requirements
Grading Status: Letter grade.

GNET 747. Next Generation Sequencing: Systems and Applications. 2 Credits.
This class is designed to shed new light on wide variety of tools available for developing new ideas for NGS applications.

Rules & Requirements
Requisites: Prerequisite, Biol 201 & 202 (Biology) or BMME 485 (Engineering) or Permission of Instructor.
Grading Status: Letter grade.

GNET 749. Practical RNA-Seq. 2 Credits.
This course is designed to familiarize students with everything needed to run an RNA-Seq experiment. There will be minimal emphasis on theory and heavy focus on practical aspects. There are no formal prerequisites required for this course and no prior experience with UNIX or the command line interface is expected.

Rules & Requirements
Grading Status: Letter grade.
Same as: PHCO 749.

GNET 750. Genomics of Complex Human Disease. 2 Credits.
Human complex diseases are major focus in human genomics. They have important genetic components, but inheritance is probabilistic and not deterministic. This graduate seminar will cover the main approaches (genome-wide association, next-generation sequencing, and structural variation in case-control and pedigree studies) and current knowledge in the main disease areas.

Rules & Requirements
Grading Status: Letter grade.

GNET 760. Advanced Topics in CRISPR-Based Genome Engineering:Origins, Applications, and Ethical Considerations. 1 Credits.
This graduate-level course is designed to teach students about the origins of CRISPR-Cas genome engineering technology, its applications to research and human health, and the ethical/societal considerations surrounding this powerful technology. Emphasis will be made on recent literature, new applications, discoveries and bioethics. Students interested in taking this class must have taken an advanced Genetics or Molecular Biology course.

Rules & Requirements
Grading Status: Letter grade.

GNET 801. Critical Thinking in Science: From Hypothesis to Grant Proposal. 3 Credits.
This journal club-style discussion course explores the molecular mechanisms regulating normal cell cycle progression and how their deregulation leads to cancer. We will trace the historical development of the cell cycle field, illustrating how scientific inquiry has shaped current paradigms. This course is ideal for students interested in cell proliferation and cancer biology, regardless of prior knowledge.

Rules & Requirements
Grading Status: Letter grade.
Same as: PATH 801.

GNET 850. Training in Genetic Teaching. 3 Credits.
Required preparation, two courses in genetics. Permission of the instructor. Principles of genetic pedagogy. Students are responsible for assistance in teaching genetics and work under the supervision of the faculty, with whom they have regular discussion of methods, content, and evaluation of performance. (Throughout the year.) Staff.

Rules & Requirements
Grading Status: Letter grade.

GNET 865. Advanced Nutritional Biochemistry: Nutrigenomics and Precision Nutrition. 2 Credits.
Permission of the instructor. Course focuses on nutrigenetics and nutrigenomics with an emphasis on the genetic and dietary interactions predisposing one to increased risk of disease.

Rules & Requirements
Grading Status: Letter grade.
Same as: NUTR 865.

GNET 870. Writing Fellowship Proposals. 1 Credits.
Provides practical experience to predoctoral students in writing fellowship proposals, using the NIH F31 as a template. Students will have weekly writing assignments, with feedback given by students and faculty. Open to 2nd and 3rd year students in the Curriculum or by permission of the instructor.

Rules & Requirements
Grading Status: Letter grade.
Same as: BCB 870.

GNET 888. Responsible Conduct of Research. 1 Credits.
Provides advanced predoctoral students with an understanding of issues relevant to conducting biomedical research as responsible citizens. It fulfills the NIH requirement for continued RCR training. Open to 4th and 5th year students in the Biology, Genetics and Molecular Biology, and Biochemistry PhD programs or by permission of the instructor.

Rules & Requirements
Grading Status: Letter grade.

GNET 891. Special Topics. 1-3 Credits.
Advance topics in current research in statistics and operations research.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.
Same as: MATH 891, BCB 891.

GNET 905. Research in Genetics. 1-15 Credits.
May be repeated for credit.

Rules & Requirements
Grading Status: Letter grade.
Same as: BIOL 921.

GNET 992. Master's (Non-Thesis). 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

GNET 993. Master's Research and Thesis. 3 Credits.
Permission of the department. Students are not accepted directly into the M.S. program.

Rules & Requirements
Repeat Rules: May be repeated for credit.

GNET 994. Doctoral Research and Dissertation. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

Contact Information

Curriculum in Genetics and Molecular Biology
Visit Program Website (http://gmb.unc.edu)

Director of Graduate Studies
Daniel McKay
dmckay1@email.unc.edu

Associate Director
Jill Dowen
jilldowen@unc.edu

Past Director of Graduate Studies
Jeff Sekelsky
sekelsky@email.unc.edu

Student Services Manager
John Cornett
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DEPARTMENT OF GEOGRAPHY (GRAD)

The graduate program of the Department of Geography and Environment aims to produce leading scholars and practitioners who will make vital contributions to contemporary geographical, social, and environmental knowledge, research, teaching, and institutions. The department approaches this goal by creating an environment in which exceptional Ph.D. and M.A. students can draw on the strengths of faculty and research centers to develop and sharpen their own research interests, capabilities, and programs around critical geographical problems. The graduate curriculum is designed to promote a broad sense of the geographical tradition in its evolving relationship with other sciences, social sciences, and humanities disciplines, and to provide a disciplinary and interdisciplinary platform for more specialized scientific and scholarly investigation.

The program offers opportunities for graduate students with diverse backgrounds and goals to receive training in varied and integrated aspects of the discipline and to work directly with faculty members on specific research projects. Master's and doctoral degrees are offered, but the programmatic focus is on the doctoral degree. As much as possible, all programs are tailored to the needs and interests of the individual student. The student's academic advisor and committee members have prime responsibility for developing, with the student, an appropriate course sequence and research program and for providing mentoring of the student. The program aims to foster maximum flexibility for individuals while ensuring a uniformly high standard of geographical training for all graduate students. Graduate students work closely with research centers and programs related to their interests, including the Carolina Population Center, the Odum Institute for Research in Social Science, the Institute for the Study of the Americas (UNC-Chapel Hill and Duke University), the Center for the Study of the American South, the Carolina Center for the Study of the Middle East and Muslim Civilizations, the Southeast Regional Climate Center, the Sheps Center for Health Services Research, the Ecology, Environment, and Energy Program, the Center for Urban and Regional Studies, the Institute for the Environment, and UNC–Chapel Hill's schools of public health and medicine. Up-to-date lists of geography faculty members and courses, along with additional information about the graduate program, faculty research projects, and other information, are available on the department's website (http://geography.unc.edu). Students build strong research, teaching, and professional skills with emphases on data analysis, project design and management, and oral and written communication that prepare them for careers at universities and in the public and private sectors.

A large proportion of graduate students receive financial assistance. Sources of aid include teaching assistantships and work on sponsored research projects within the department, University-wide competitive assistantships, nonservice fellowships, merit scholarships, and externally awarded fellowships.

The department occupies the top two floors of Carolina Hall and has access to extensive computational laboratories needed to fulfill its research and teaching mission, with specialized facilities dedicated to spatial analysis and the use of geographic information systems. A range of geographic data sets is readily available. An extensive collection of geographic books and periodicals, including an exceptionally strong collection of foreign periodicals, is held in the nearby Davis Library, while Wilson Library houses a large map collection.

The Department of Geography and Environment offers advanced programs leading to the master of arts and doctor of philosophy degrees. While both the M.A. and Ph.D. degrees are offered, the major emphasis of the program is on the Ph.D., even for those not yet possessing an M.A. Incoming students are roughly evenly mixed between those with and without a master's degree.

All graduate students are required to complete three core courses (GEOG 702, GEOG 703, and GEOG 704) presenting the foundations of geographical theory, communication, and research. Thereafter, the program of study is flexible and tailored to the needs of the individual student. Students select the appropriate coursework and dissertation topic in consultation with their advisor and dissertation/thesis committee.

The Department of Geography and Environment has faculty strength in five overlapping areas of concentration. These represent coherent foci and areas of active faculty research, not mutually exclusive categories. Indeed, many students and faculty members work on projects that span more than one area. So, while intensive training is offered in a number of diverse areas, the program is noted for its integrative and cross-cutting approaches. The department's diverse graduate students are pursuing a wide variety of research at UNC–Chapel Hill.

Departmental research specializations include

Biophysical Geography and Earth Systems Science. UNC–Chapel Hill geographers examine the biophysical environment as an integrated system, emphasizing the linkages and feedbacks between terrestrial and atmospheric form and function. The focus is on the interactions between the structure and composition of the earth's surface, its soils and vegetation, and the atmosphere with those processes that actively cycle energy and material through them.

Culture, Society, and Space. UNC–Chapel Hill geographers investigate the intersection of space, place, landscape, and region with social and cultural processes, including issues of identity and representation, spatio-temporalities of social belonging and exclusion, and the production and circulation of value and values. This work encompasses a diversity of methodological approaches, scales, and concerns, from urban dynamics and symbolic spaces to rural landscapes, agrarian and industrial change, and social geographies of race, class, gender, health, and religion.

Geographic Information and Analysis. UNC–Chapel Hill geographers apply geographic information sciences as an integrated set of spatial digital technologies to investigate biophysical and social phenomena. They use and develop tools, techniques, concepts, and data sets associated with geographic information systems, remote sensing, data visualization, global positioning systems, spatial analysis, and quantitative methods.

Globalization and International Development. UNC–Chapel Hill geographers study the consequences of processes of globalization (and the anti-globalization and global justice movements they stimulate); international development and its effects on the geographies of international and local capital, labor, technology, information, goods and services; postsocialism, political economy, political geography and geopolitics, and political ecology.

Nature-Society Studies and Human-Environment Interactions. Drawing on analytical and theoretical perspectives from ecology, socioecological systems, political ecology, science studies, and cultural studies, UNC–Chapel Hill geographers investigate the social contexts, drivers, and

consequences of environmental change and struggles over land use and resources.

Following the faculty member's name is a section number that students should use when registering for independent studies, reading, research, and thesis and dissertation courses with that particular professor.

Professors

Shorna Allred (52), Environmental Justice, Conservation Social Science, Conservation and Land-Use Decision-Making, Global Sustainability, Community Resilience, Southeast Asia and U.S. South
Michael Emch (29), Medical Geography, Spatial Epidemiology, Health and Environment, Geographic Information Systems (GIS), Remote Sensing
Banu Gökariksel (28), Urban, Cultural, and Feminist Geography; Social Theory; Globalization and Modernity; the Middle East and Southeast Asia
Clark Gray (35), Population, Environment and Development; Survey and Statistical Methods
Elizabeth Havice (36), Political Economy and Ecology, International Development, Commodity Studies, Environmental Politics, Trade Politics, Fisheries Systems
Scott L. Kirsch (23), Historical, Cultural, and Political Geography; Science and Technology Studies
Charles E. Konrad (16), Synoptic Climatology and Meteorology
Elizabeth Olson (41), Critical Health Geography, Care Ethics, Child and Youth Geography, Inequality
Diego Riveros-Iregui (42), Ecohydrology, Watershed Hydrology, Biogeochemistry, Land-Atmosphere Interactions, Tropical Hydrology, Climate and Land Use Cover Change
Sara Smith (33), Political and Social Geography, Nationalism, Health, South Asia
Conghe Song (24), Remote Sensing of Environment, Forestry and Forest Ecosystem Services, Modelling, Dynamics of the Integrated-Social and Environmental Systems
Gabriela Valdivia (32), Political Ecology and Resource Geography, Extractive Economies, Indigenous Communities, Latin America
Erika Wise (34), Dendrochronology, Climatology, Water Resources

Associate Professors

Javier Arce-Nazario (43), Landscape History, GIS-Remote Sensing, Translational Geoscience, Critical Physical Geography, Water and Sustainability
Paul L. Delamater (44), Health and Medical Geography, Access to Healthcare Policy, Spatial Analysis, GIS
Christian Lentz (39), Development, State Formation, Nationalism, Nature-Society Relations, Agrarian Studies, Southeast Asia
Nina Martin (31), Urban, Economic, and Migration Geography; Globalization and Urban Change; Urban Planning and Policy; Civil Society
Aaron Moody (18), Geographic Information Systems (GIS), Biogeography
Chérie Rivers (47), Black Geographies, Decolonial Praxes, Indigeneity and Sustainable Farming, Black Atlantic World

Assistant Professors

Amanda Gay DelVecchia (49), Freshwater Ecology, Biogeochemistry, Watershed Science, Groundwater – Surface Water Exchange
Maliheh Ghajargar (56), Human-Environment Interaction, Sustainability, and Human-AI Creative Interaction
Ruth Matamoreos-Mercado (50), Land, Critical Indigenous Geographies, Moskitia, and Central America
Danielle Purifoy (48), Black Geographies, Environmental Justice, Uneven Development, U.S. South
Paul Taillie (50), Wildlife Conservation, Vertebrate Community Ecology, Global Change, and Remote Sensing

Teaching-Track Faculty

Jun Liang, Teaching Associate Professor
Adrian Drummond-Cole, Teaching Assistant Professor
David Parr, Teaching Assistant Professor
Julia Cardwell, Teaching Assistant Professor

Research-Track Faculty

John Pickles, Research Professor
Stephan Walsh, Research Professor
Richar Bilsborrow, Research Professor
Christopher Fuhrmann, Research Associate Professor and Deputy Director, Southeastern Regional Climate Center
Qi Zhang, Research Assistant Professor
Chao Wang, Research Assistant Professor

Adjunct Faculty

Lawrence Band (University of Virginia) Watershed Hydrology, Ecology & Geomorphology, GIS, Remote Sensing
Angel Hsu (Department of Public Policy), Data Science, Environmental Justice, Urban Heat Island, Climate Change
Pamela Jagger (University of Michigan), Energy, Livelihoods, Poverty, Forest Economics and Policy, and Human-Environment Interactions
Carlos Mena (Universidad San Francisco de Quito, Ecuador), GIS, Latin America, Population and Environment, Remote Sensing, Dynamic Modeling
Dinesh Paudel (Appalachian State University), Sustainability, Community Forestry, Development, Disaster Recovery and Resilience
Tamlin Pavelsky (Department of Earth, Environment, and Marine Sciences), Hydrology, Remote Sensing, Climate Change
Diego Quiroga (Universidad San Francisco de Quito, Ecuador), Environmental Life and Sciences
Elizabeth Shapiro (Duke University), Market-Based Environmental Initiatives and Policies in Latin America
Andres Vina (Michigan State University), Environmental Change, Biophysical Properties of Vegetation, Human-Environment Interactions
Colin West (Department of Anthropology), Human Ecology, Households, Global Change, West Africa, GIS, Remote Sensing, Agent-Based Modeling

Professors Emeriti

Stephen S. Birdsall
John W. Florin
Wilbert M. Gesler
Richard J. Kopec
Thomas M. Whitmore

GEOG

Advanced Undergraduate and Graduate-level Courses

GEOG 406. Atmospheric Processes II. 4 Credits.
Principles of analysis of the atmosphere are applied to the analysis of environmental phenomena. The link between the atmosphere and other environmental compartments is explored through environmental case studies.

Rules & Requirements
Grading Status: Letter grade.
Same as: ENEC 406.

GEOG 410. Modeling of Environmental Systems. 3 Credits.
Uses systems theory and computer models to understand ecosystem energy and matter flows, such as energy flow in food webs, terrestrial ecosystem evapotranspiration and productivity, related to climate, vegetation, soils, and hydrology across a range of spatial and temporal scales.

Rules & Requirements

IDEAs in Action Gen Ed: FC-NATSCI or FC-QUANT.
Grading Status: Letter grade.

GEOG 412. Synoptic Meteorology. 3 Credits.
An analysis of synoptic weather patterns and the processes responsible for them. Climatological aspects of these weather patterns are emphasized. (EES)

Rules & Requirements
Requisites: Prerequisite, GEOG 110 or 111.
Grading Status: Letter grade.

GEOG 414. Climate Change. 3 Credits.
An investigation of the scientific basis of climate change (past, present, and future), the current state of knowledge concerning future projections, and the implications of climate change for society and the environment.

Rules & Requirements

IDEAs in Action Gen Ed: FC-NATSCI, RESEARCH.
Requisites: Prerequisite, At least ONE of the following: GEOG 110, GEOG 111, EMES 201, ENEC 201.
Grading Status: Letter grade.

GEOG 415. Communicating Important Ideas. 3 Credits.
This hands-on course will set you on a path towards making a positive difference in the world through effective communication of ideas that are important to you. Emphasis will be on practical skills in listening, clarifying your message, having a narrative focus, creating effective graphics, giving engaging oral and poster presentations, social media use, communication with journalists, operating in the judicial and political arenas, and community outreach and public talks.

Rules & Requirements

IDEAs in Action Gen Ed: COMMBEYOND.
Grading Status: Letter grade.

GEOG 416. Applied Climatology: The Impacts of Climate and Weather on Environmental and Social Systems. 3 Credits.
Applied climatology involves the interdisciplinary application of climate data and techniques to solve a wide range of societal and environmental problems. This projects-based course investigates how climate impacts a range of sectors, including water resources, urban environments, ecosystems, and human health.

Rules & Requirements

IDEAs in Action Gen Ed: FC-NATSCI, RESEARCH, COMMBEYOND.
Grading Status: Letter grade.

GEOG 419. Field Methods in Physical Geography. 3 Credits.
Involves evaluation of landscapes by examining nature and biophysical elements influencing landscape form and function. Course emphasizes data collection, analysis, and interpretation using GIS and field methods. (EES)

Rules & Requirements
Grading Status: Letter grade.

GEOG 423. Social Geography. 3 Credits.
A study of the spatial components of current social problems, such as poverty, race relations, environmental deterioration and pollution, and crime. (GHA)

Rules & Requirements
Grading Status: Letter grade.

GEOG 424. Geographies of Religion. 3 Credits.
This course considers the theoretical and empirical dimensions of religion from a geographical perspective. The course introduces the key theories linking space, place, and religion and helps students apply these new theoretical tools to examine some of the pressing issues in the contemporary study of religion.

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING.
Grading Status: Letter grade.

GEOG 428. Global Cities: Space, Power, and Identity in the Built Environment. 3 Credits.
This course addresses questions of power, politics, and identity in the urban environment, with a focus on the emergence of key selected global cities and the processes that both created them historically and which are currently transforming them locally and globally.

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL or FC-VALUES, RESEARCH.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.
Same as: PLAN 428.

GEOG 429. Urban Political Geography: Durham, NC. 3 Credits.
An interdisciplinary exploration of urban social problems, bridging the literature on urban geography with that on urban politics. Students will be required to complete 30 hours of service for an organization that works on an urban social issue.

Rules & Requirements

IDEAs in Action Gen Ed: FC-POWER or FC-VALUES, RESEARCH, HI-SERVICE.
Grading Status: Letter grade.

GEOG 430. Global Migrations, Local Impacts: Urbanization and Migration in the United States. 3 Credits.
This course explores the relationship between patterns of urban development in the United States and migration, in both historical and contemporary contexts.

Rules & Requirements
Grading Status: Letter grade.

GEOG 435. Global Environmental Justice. 3 Credits.
This advanced course brings geographical perspectives on place, space, scale, and environmental change to the study of environmental justice. In lectures, texts, and research projects, students examine environmental concerns as they intersect with racial, economic and political differences. Topics include environmental policy processes, environmental justice movements, environmental health risks, conservation, urban environments, and the role of science in environmental politics and justice. (GHA)

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL or FC-POWER, RESEARCH.
Grading Status: Letter grade.

GEOG 436. Governance, Institutions, and Global Environmental Change. 3 Credits.
Interdisciplinary course for advanced undergraduates and graduate students. Focuses on multiscale environmental issues and related social, institutional, governance, and policy challenges. Examines key concepts and theories involving global environmental change and problem-solving efforts.

Rules & Requirements
Grading Status: Letter grade.

GEOG 437. Social Vulnerability to Climate Change. 3 Credits.
How does climate change affect vulnerable human populations? We will attempt to answer a shared research question on this topic by reading the peer-reviewed literature and by conducting a semester-long data analysis project incorporating social and climate data from around the world. This is a course-based undergraduate research experience (CURE).

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL, RESEARCH.
Grading Status: Letter grade.
Same as: ENEC 437.

GEOG 440. Earth Surface Processes. 3 Credits.
This course will focus on the processes of soil formation, erosion, and landform evolution with an emphasis on the interaction of geomorphic processes with surface hydrology and ecosystems. (EES) Course previously offered as GEOL 502.

Rules & Requirements
Requisites: Prerequisite, GEOG 110.
Grading Status: Letter grade.
Same as: EMES 502.

GEOG 441. Introduction to Watershed Systems. 3 Credits.
Introduction to hydrologic and geomorphic processes in watersheds as applied to problems in flood analysis, water quality, and interactions of hydrology and environmental sciences. Drainage networks, nested catchments, and distribution and controls of precipitation, evaporation, runoff, and groundwater flow. Includes local field trips. (EES)

Rules & Requirements
Requisites: Prerequisite, ENEC 202 or GEOG 110; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

GEOG 442. River Processes. 3 Credits.
Introduction to landforms and processes associated with flowing water at the earth's surface. Hydrology, sedimentology, and theories of channel formation and drainage basin evolution. (ESS)

Rules & Requirements
Grading Status: Letter grade.

GEOG 444. Landscape Biogeography. 3 Credits.
This course is concerned with the application of biogeographical principles and techniques to the study of natural and human-modified landscapes. It includes local and extraregional case studies. (EES)

Rules & Requirements
Grading Status: Letter grade.

GEOG 446. Geography of Health Care Delivery. 3 Credits.
This course examines the role that geography plays in shaping how people interact with the health care system. Topics include health care delivery system types, facility and personnel distributions, access to care, health care utilization, as well as GIS, spatial analysis, and decision support systems.

Rules & Requirements
Grading Status: Letter grade.

GEOG 447. Gender, Space, and Place in the Middle East. 3 Credits.
Examines gender, space, and place relationships in the modern Middle East. Investigates shifting gender geographies of colonialism, nationalism, modernization, and globalization in this region. (GHA)

Rules & Requirements
Grading Status: Letter grade.
Same as: ASIA 447, WGST 447.

GEOG 448. Transnational Geographies of Muslim Societies. 3 Credits.
Examines modern Muslim geographies that are created by transnational flows, connections, and imaginaries that cross national and regional boundaries across the Middle East, Southeast Asia, and beyond.

Rules & Requirements
Grading Status: Letter grade.

GEOG 451. Population, Development, and the Environment. 3 Credits.
Introduction to contemporary and historical changes in human population, international development, and the global environment and how these processes interact, drawing on population geography as an organizing framework. Previously offered as GEOG 450.

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL.
Grading Status: Letter grade.
Same as: ENEC 451.

GEOG 452. Mobile Geographies: The Political Economy of Migration. 3 Credits.
This course explores the contemporary experience of migrants. Various theoretical approaches are introduced, with the emphasis on a political-economic approach. (GHA)

Rules & Requirements
Grading Status: Letter grade.

GEOG 453. Political Geography. 3 Credits.
The geography of politics is explored at the global, the nation-state, and the local scale in separate course units, but the interconnections between these geographical scales are emphasized throughout. (GHA)

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING or FC-POWER.
Grading Status: Letter grade.
Same as: PWAD 453.

GEOG 456. Geovisualizing Change. 3 Credits.
This course investigates the challenges, tools and techniques, and important applications of visualizing and analyzing geographic data that is temporally dynamic. We tackle technical challenges in obtaining, analyzing, and visualizing dynamic processes in space though maps, and discuss the consequences of our choices in how to re/present these processes. Students will produce original geovisualizations of dynamic data related to their field. Recommended preparation: experience with GIS software (GEOG 370 or GEOG 491).

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING or FC-QUANT.
Requisites: Prerequisite, GEOG 370; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

GEOG 457. Rural Latin America: Agriculture, Environment, and Natural Resources. 3 Credits.
This course explores a systems and cultural-ecological view of agriculture, environment, natural resource, and rural development issues in Latin America. It serves as a complement to GEOG 458 Urban Latin America. (Regional) Honors version available.

Rules & Requirements

IDEAs in Action Gen Ed: FC-CREATE or FC-POWER, RESEARCH.
Grading Status: Letter grade.

GEOG 458. Urban Latin America: Politics, Economy, and Society. 3 Credits.
This course examines urban social issues in contemporary Latin America. Cities and their residents will be considered in relation to each other and to North American examples. (Regional)

Rules & Requirements
Requisites: Prerequisite, GEOG 259; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

GEOG 459. Law, Indigenous Knowledge Systems and Environmental Activism in Latin America. 3 Credits.
This course explores the contradictions of Indigenous people's views on land and the environment and the existing legal frameworks addressing Indigenous peoples land rights across Latin America, focusing on how these contradictions are often shaped by global economic interests. The course highlights the ways in which Indigenous groups resist and adapt to environmental challenges exacerbated by stated sponsored extractive industries usually operating within the framework of legal apparatuses to which indigenous peoples respond to employing a range of strategies from legal battles to grassroots activism and quotidian practices.

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL or FC-POWER.
Grading Status: Letter grade.
Same as: LTAM 459.

GEOG 460. Geographies of Economic Change. 3 Credits.
This course is designed to explore changing geographies of production and consumption in theory and in practice.

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL or FC-KNOWING, RESEARCH.
Grading Status: Letter grade.

GEOG 464. Europe Today: Transnationalism, Globalisms, and the Geographies of Pan-Europe. 3 Credits.
A survey by topic and country of Europe west of Russia. Those features that make Europe a distinct and important region today are emphasized. (Regional)

Rules & Requirements
Grading Status: Letter grade.

GEOG 468. Environmental Justice in Urban Europe. 3 Credits.
While much attention has been given to Europe's "green" cities and the region's examples of sustainable development, less attention has been given to the ways in which the uneven distributions of environmental degradation have social and spatial ramifications within and beyond the region. This course will provide an overview of environmental justice in urban Europe to consider the key concepts, topics, debates, and trends shaping people and places there.

Rules & Requirements
Grading Status: Letter grade.

GEOG 470. Political Ecology: Geographical Perspectives. 3 Credits.
Examines foundational concepts and methods and their relevance for understanding nature-society relationships. Discussions on environmental change and conflict and how nature is bound up with relations of power and constructions of identity.

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING or FC-POWER, RESEARCH.
Grading Status: Letter grade.

GEOG 477. Introduction to Remote Sensing of the Environment. 3 Credits.
Covers fundamental theory and mechanics of remote sensing, related theoretical aspects of radiation and the environment, and remote-sensing applications relating to terrestrial, atmospheric, and marine environments. Hands-on experience for application and information extraction from satellite-based imagery through biweekly laboratory assignments. Prepares students for GEOG 577. (GISc)

Rules & Requirements

IDEAs in Action Gen Ed: FC-QUANT.
Requisites: Prerequisite, GEOG 370.
Grading Status: Letter grade.

GEOG 480. Liberation Geographies. 3 Credits.
If freedom is a place (as Ruth Wilson Gilmore maintains), then how do we build freedom? This course pursues this question - in theory and practice - from Black and indigenous perspectives. We engage decolonial critiques of western modernity, which raise the question of how systems of oppression came to be as they are. Then we examine historic and ongoing examples of Black and indigenous liberation including practices of anticolonial place making and Mapping Decolonial Futures.

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING or FC-POWER.
Grading Status: Letter grade.

GEOG 491. Introduction to GIS. 3 Credits.
Stresses the spatial analysis and modeling capabilities of organizing data within a geographic information system. (GISci)

Rules & Requirements
Requisites: Prerequisite, GEOG 370; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Same as: PLAN 491.

GEOG 492. Radical Black Thought. 3 Credits.
The premise of this course is that the possibilities articulated by radical Black intellectuals and artists in Africa and its diaspora are key to dismantling systems of oppression. It includes theories of unfreedoms derived from experiences of oppression-colonization, slavery, mass incarceration, racial inequity. It also examines radical Black responses to unfreedoms through practices of mental (de)colonization and moral courage, epistemology and pedagogy, human-earth relationships and environmental justice.

Rules & Requirements
Grading Status: Letter grade.

GEOG 493. Internship. 3 Credits.
Open to junior and senior geography majors. Geography internships combine substantive geographic work experience with an academic project designed to integrate theory and practice. Field work is included.

Rules & Requirements

IDEAs in Action Gen Ed: HI-INTERN.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

GEOG 515. Applied Spatial Data Science. 3 Credits.
Students will learn to apply numerous spatial data science skills and tools to solve real-world problems and model geographic phenomena. Material will include theoretical and conceptual underpinnings of the methods and techniques, as well as hands on application in R. Topics include R as a GIS, spatial neighborhoods, spatial autocorrelation, regression, clustering, interpolation, and geovisualization. Real world examples and data spanning physical, social, and health sciences are used throughout the course to promote contextual learning.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Requisites: Prerequisites, GEOG 215 and GEOG 370; permission of the instructor for students lacking prerequisites.
Grading Status: Letter grade.

GEOG 541. GIS in Public Health. 3 Credits.
Explores theory and application of geographic information systems (GIS) for public health. The course includes an overview of the principles of GIS in public health and practical experience in its use. (GISci)

Rules & Requirements
Grading Status: Letter grade.

GEOG 542. Neighborhoods and Health. 3 Credits.
This course explores how neighborhood context influences the health of the populations living in them. It includes a survey of neighborhoods and health theory and empirical examples. (GHA)

Rules & Requirements
Grading Status: Letter grade.

GEOG 543. Qualitative Methods in Geography. 3 Credits.
This course teaches qualitative methods in geography for graduate and advanced undergraduate students. We will cover interviews, focus groups, visual, and other methodologies. We will also discuss modes of analysis, coding, and writing up qualitative research for publication.

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING or FC-VALUES.
Grading Status: Letter grade.

GEOG 544. Geographic Information Systems for Impact Evaluation and Health Studies. 3 Credits.
Examines the theory and application of geographic information systems (GIS) for impact evaluation for intervention studies. The course will focus especially on health and economic interventions in the developing world. The course includes an overview of the principles of GIS in impact evaluation and practical experience in its use.

Rules & Requirements
Grading Status: Letter grade.

GEOG 555. Cartography of the Global South. 3 Credits.
This course presents cartographic techniques for better map design, with a focus on mapping the geographies of the Global South. Modern techniques and software will be used for developing and demonstrating proficiency in what are considered standard map design techniques, and we will also study examples from places and map makers outside of dominant cartographic traditions, and maps meant for actors and audiences in the Global South.

Rules & Requirements
Requisites: Prerequisite, GEOG 370.
Grading Status: Letter grade.

GEOG 567. Geospatial Data Analysis with Google Earth Engine. 3 Credits.
This course teaches students key concepts and skills for geospatial data analysis using the rich geospatial data resources, tools, and cloud computing facility on Google Earth Engine for environmental monitoring, mapping, modeling, and visualization. The course will enable students to pursue geospatial data analysis ranging from local to global scales to extract critical information for scientific understanding of the environment and for making science-based policies to address the environmental challenges we face today.

Rules & Requirements

IDEAs in Action Gen Ed: FC-NATSCI or FC-QUANT, RESEARCH.
Requisites: Prerequisite, GEOG 370; Permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

GEOG 570. Geographic Information Analysis. 3 Credits.
This course explores the capabilities of geographic information systems for spatial analysis and modeling. Emphasis is placed on how geographic information analysis is used within scientific research; specifically, students will learn to appropriately choose and interpret geographic methods to answer scientific research questions. Students will complete a rigorous research project of their own choosing and will get experience reviewing others' work and revising their own work. Weekly activities will include both conceptual and hand-on material.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Requisites: Prerequisites, GEOG 391 and GEOG 491; permission of the instructor for students lacking prerequisites.
Grading Status: Letter grade.

GEOG 577. Advanced Remote Sensing. 3 Credits.
Acquisition, processing, and analysis of satellite digital data for the mapping and characterization of land cover types. (GISci)

Rules & Requirements

IDEAs in Action Gen Ed: FC-QUANT.
Requisites: Prerequisite, GEOG 370 or 477.
Grading Status: Letter grade.

GEOG 591. Applied Issues in Geographic Information Systems. 3 Credits.
Applied issues in the use of geographic information systems in terrain analysis, medical geography, biophysical analysis, and population geography. (GISci)

Rules & Requirements

IDEAs in Action Gen Ed: FC-QUANT.
Requisites: Prerequisite, GEOG 370, 491, or equivalent.
Grading Status: Letter grade.

GEOG 592. Geographic Information Science Programming. 3 Credits.
This course will teach students the elements of GISci software development using major GIS platforms. Students will modularly build a series of applications through the term, culminating in an integrated GIS applications program.

Rules & Requirements

IDEAs in Action Gen Ed: FC-QUANT.
Requisites: Prerequisite, GEOG 370 or 491.
Grading Status: Letter grade.

GEOG 594. Global Positioning Systems and Applications. 3 Credits.
Global Positioning Systems (GPS) fundamental theory, application design, post processing, integration of GPS data into GIS and GPS application examples (such as public health, business, etc.) will be introduced.

Rules & Requirements
Requisites: Prerequisite, GEOG 370.
Grading Status: Letter grade.

GEOG 597. Ecological Modeling. 3 Credits.
This course focuses on modeling the terrestrial forest ecosystems processes, including population dynamics, energy, water, nutrients, and carbon flow through the ecosystem. (GISci)

Rules & Requirements
Requisites: Prerequisite, BIOL 561 or STOR 455; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

GEOG 598. GIS and Systems Modeling. 3 Credits.
GIS and Systems Modeling are theory and methodology that use GIS, quantitative models, and systems analysis to describe processes, interactions, and feedbacks in complex systems. Simulation experiments of systems models can be used as a "laboratory" to answer many "what if" questions, which can be used for the evaluation of policies and scenarios.

Rules & Requirements
Requisites: Prerequisite, GEOG 370 or 491.
Grading Status: Letter grade.

GEOG 650. Technology and Democracy Research. 3 Credits.
Are technological choices open to democratic participation? Through a novel research workshop format, this graduate and undergraduate course explores political and geographical dimensions of technological change around key environmental issues--energy, water, and waste.

Rules & Requirements

IDEAs in Action Gen Ed: HI-SERVICE.
Grading Status: Letter grade.

GEOG 691H. Honors. 3 Credits.
By permission of the department. Required of all students aspiring to honors in geography. Directed readings, research, and writing.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

GEOG 692H. Honors. 3 Credits.
Required of all students aspiring to honors in geography. Preparation of a senior thesis.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Requisites: Prerequisite, GEOG 691H.
Grading Status: Letter grade.

GEOG 697. Capstone Seminar in Geographic Research. 3 Credits.
A systematic study of the approaches, key concepts, and methods of geography, emphasizing the application of these approaches through hands-on independent research designed and implemented by the students. (Core)

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING, RESEARCH.
Grading Status: Letter grade.

Graduate-level Courses

GEOG 702. Contemporary Geographic Thought. 3 Credits.
History and philosophy of the geographic discipline, with particular emphasis on developments in recent decades.

Rules & Requirements
Grading Status: Letter grade.

GEOG 703. Geographic Research Design. 3 Credits.
Introduction to the theory and practice of geographic research. The range of methods available for problem identification and solution are considered through development of specific research proposals.

Rules & Requirements
Grading Status: Letter grade.

GEOG 704. Communicating Geography. 3 Credits.
Seminar introduces new students to current geographic sub-disciplines, faculty research interests and areas of expertise within the Department, and university resources. In this required core course in Geography's graduate curriculum, students also engage with issues of communication, professionalization, and career development in Geography and related fields.

Rules & Requirements
Grading Status: Letter grade.

GEOG 705. Advanced Quantitative Methods in Geography. 3 Credits.
Application of selected multivariate statistical techniques to the analysis of geographic phenomena and problems.

Rules & Requirements
Grading Status: Letter grade.

GEOG 706. Demographic Methods. 3 Credits.
This is an introductory course in demographic research methods. Common methods for measuring demographic indicators (fertility, mortality, migration, population growth, and marriage) will be presented.

Rules & Requirements
Grading Status: Letter grade.

GEOG 710. Advanced Physical Geography - Biogeoscience. 3 Credits.
Examination of the major processes controlling environmental cycling of material and energy at the landscape level, and development of a quantitative understanding of the physical and ecosystem processes responsible for landscape pattern and evolution.

Rules & Requirements
Grading Status: Letter grade.

GEOG 711. Advanced Physical Geography - Hydroclimatology and Bioclimatology. 3 Credits.
Examination of topics focused on the atmospheric and the vegetation and land surface parts of the hydrologic cycle at the micro to global spatial scale and short-term to millennial temporal scale.

Rules & Requirements
Grading Status: Letter grade.

GEOG 715. 715 Land Use/Land Cover Dynamics and Human-Environment Interaction. 3 Credits.
Examination of topics that integrate social, natural, and spatial sciences within the context of human-environment interactions, with an emphasis on landuse/landcover dynamics and spatial digital technologies for linking landscape form and function.

Rules & Requirements
Grading Status: Letter grade.

GEOG 720. Cultural and Political Ecology. 3 Credits.
This course examines the foundations and current literature on cultural and political ecology. Focus is given to the appropriation of "Nature," degradation and deforestation, conservation, famine, postcolonial peasants, resistance, Indigeneit, and property, land distribution, and governmentality.

Rules & Requirements
Grading Status: Letter grade.

GEOG 760. Geographies of Economic Change. 3 Credits.
This course is designed to explore changing geographies of production and consumption in theory and in practice.

Rules & Requirements
Grading Status: Letter grade.

GEOG 790. Spatial Analysis and Computer Modeling. 3 Credits.
This course introduces students to spatial analysis techniques involving points, lines, areas, surfaces, and non-metric spaces, as well as programming basic geographic models on microcomputers.

Rules & Requirements
Grading Status: Letter grade.

GEOG 801. Research Seminar in Earth System Science and Biophysical Geography. 3 Credits.
An in-depth seminar devoted to contemporary faculty research topics in earth system science and biophysical geography. Topics and instructors vary.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

GEOG 802. Research Seminar in Geographic Information Sciences. 3 Credits.
An in-depth seminar devoted to contemporary faculty research topics in geographic information sciences. Topics and instructors vary.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

GEOG 803. Research Seminar in Nature-Society Studies and Human-Environment Interactions. 3 Credits.
An in-depth seminar devoted to contemporary faculty research topics in nature-society studies and human-environment interactions. Topics and instructors vary.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

GEOG 804. Research Seminar in Social Geography. 3 Credits.
An in-depth seminar devoted to contemporary faculty research topics in social geography. Topics and instructors vary.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

GEOG 805. Research Seminar in International Area Studies, Development, and Globalization. 3 Credits.
An in-depth seminar devoted to contemporary faculty research topics in international area studies, development, and globalization. Topics and instructors vary.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

GEOG 811. Seminar/Readings in Earth System Science and Biophysical Geography. 3 Credits.
An in-depth seminar devoted to contemporary readings in earth system science and biophysical geography. Topics and instructors vary.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

GEOG 812. Seminar/Readings in Geographic Information Sciences. 3 Credits.
An in-depth seminar devoted to contemporary readings in geographic information sciences. Topics and instructors vary.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

GEOG 813. Seminar/Readings in Nature-Society Studies and Human-Environment Interactions. 3 Credits.
An in-depth seminar devoted to contemporary readings in nature-society studies and human-environment interactions. Topics and instructors vary.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

GEOG 814. Seminar/Readings in Social Geography. 3 Credits.
An in-depth seminar devoted to contemporary readings in social geography. Topics and instructors vary.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

GEOG 815. Seminar/Readings in International Area Studies, Development, and Globalization. 3 Credits.
An in-depth seminar devoted to contemporary readings in international area studies, development, and globalization. Topics and instructors vary.

Rules & Requirements
Grading Status: Letter grade.

GEOG 900. Special Work in Geography. 1-21 Credits.
Required preparation, two courses in the one hundred bracket or permission of the instructor.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

GEOG 993. Master's Research and Thesis. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

GEOG 994. Doctoral Research and Dissertation. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

Contact Information

Department of Geography
Visit Program Website (https://geography.unc.edu/)

Chair
Conghe Song
csong@email.unc.edu

Director of Graduate Studies
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DEPARTMENT OF GERMANIC AND SLAVIC LANGUAGES AND LITERATURES (GRAD)

The Carolina-Duke Graduate Program in German Studies

The Department of Germanic and Slavic Languages and Literatures offers a Ph.D. in German studies in conjunction with Duke University. The Carolina–Duke graduate program in German studies is a fully merged graduate program that draws on one of the largest German studies faculties in the country, as well as on the considerable library holdings of each institution. Students apply to a single program and graduate with a diploma bearing the names of both Duke University and the University of North Carolina at Chapel Hill.

While the Carolina-Duke graduate program in German studies does not admit students for the M.A., students in the program are able to receive an M.A. while en-route to the Ph.D. at any time after successfully passing the Writing Proficiency Review (WPR). (For more information about the WPR, please see "Course of Study" under the Programs tab.)

The Carolina-Duke Graduate Program in German Studies

The Carolina-Duke Graduate Program in German offers students a combination of disciplinary rigor and interdisciplinary flexibility that recognizes the fundamental interrelation of all the cultural expressions of societies where the German language is spoken. Taking full advantage of the intellectual, educational, and cultural resources of two great universities, the program offers an attractive combination of individual attention in small classes and a close connection to the broader communities of literature, cultural studies, and German studies at Duke University and at the University of North Carolina at Chapel Hill. The core German studies faculty (at a current number of 17 one of the largest in North American German studies), represents all branches of research in the field, including medieval studies, gender and sexuality studies, literary theory and poetics, European intellectual history, modernism, realism, German-Jewish studies, Holocaust studies, politics and culture in the 20th century, film and media studies, science studies, Afro-German and Turkish-German culture, and contemporary society. This ensures that all major aspects of German literary, cinematic, and cultural history, from medieval manuscripts to contemporary cinema, are covered by experts in the field. Faculty engage in innovative, interdisciplinary teaching and research projects involving other departments and programs and support close intellectual ties with major German universities. Students take courses full time in their first year of study; in subsequent years they acquire pedagogical training and teaching experience at both a private (Duke University) and a public (University of North Carolina at Chapel Hill) university. Multiple program options are available to students, from the study of historical periods and genres (medieval to contemporary) to literary criticism and theory. Interdisciplinary work is strongly encouraged. Admission is competitive and limited to no more than seven students a year. Duke University and the University of North Carolina at Chapel Hill are committed to offering six consecutive years of full funding, including tuition, to students in good standing in the program.

Admissions Requirements

We seek applicants with extraordinary academic records and intellectual curiosity, and we welcome applicants of any nationality, from diverse academic and cultural backgrounds. A bachelor's degree or the international equivalent is required, generally in German studies or a related field. All applications are routed through The Graduate School at UNC–Chapel Hill in a single admissions process that ensures that incoming students matriculate fully at both the University of North Carolina at Chapel Hill and at Duke University. Please read UNC's admissions instructions (https://gradschool.unc.edu/admissions/) for detailed information about the application process and requirements. Additional information is available on the Carolina-Duke website (https://carolina-duke-grad.german.duke.edu/). Questions regarding translation issues and foreign degrees and transcripts should be directed to gsll@unc.edu.

Application Deadline

Applicants are strongly encouraged to complete their applications by early December and meet all posted deadlines.

Teaching

Teacher training is a central component of the Carolina–Duke Graduate Program in German Studies. Both departments provide rigorous training in foreign language teaching, which includes an introduction to the interdisciplinary fields of applied linguistics and second-language acquisition. Teaching assistantships are normally available to students in their second through fifth years of study who continue to make satisfactory progress towards the completion of their degree and remain in good standing in the program. It is crucial that teaching assistants (TAs) have highly advanced German language skills. During their first year, students' language proficiency in German will be evaluated. Only students who achieve a level of C1 according to the Common European Frame of Reference (https://www.coe.int/en/web/common-european-framework-reference-languages/table-1-cefr-3.3-common-reference-levels-global-scale/) (CEFR) will be asked to teach in the German language program. Students who do not possess the required proficiency in German will be expected to obtain this proficiency as soon as possible. Beginning TAs generally teach first-year German. The foreign language pedagogy course is offered every other year, so all graduate students in the program will have the opportunity to take it either before they begin to teach, or concurrently with their first semester of teaching. In later semesters graduate students often teach second-year German and occasionally more advanced undergraduate courses as well (German culture and society, advanced composition). In addition, students may serve as discussion leaders in larger lecture courses or serve as research assistants.

Study and Research Abroad

Students are strongly encouraged to study and conduct research abroad as an integral part of their graduate work. Both Duke University and the University of North Carolina at Chapel Hill have strong, long-standing partnerships with German universities.

Duke offers student exchanges with the Free University of Berlin and the University of Potsdam, programs in which graduate students in German studies regularly participate. Furthermore, select graduate students will be invited to serve as mentors, instructors, and/or program assistants in the undergraduate Duke study abroad summer program in Berlin.

The University of North Carolina at Chapel Hill has partnerships with German universities, including exchanges with the University of Tübingen and the state of Baden-Württemberg, and a new exchange with the University of Zürich. Further, graduate students in German at Duke University and the University of North Carolina at Chapel Hill have a strong track record for successful DAAD and Fulbright fellowships for study abroad.

Course of Study

1. Five core courses: Foreign Language Pedagogy: Theories and Practice; Foundations in German Studies, 1000 to 1750; Foundations in German Studies, 1750 to 1900; Foundations in German Studies, 1900 to the Present; and Theories and Methods in German Studies. Incoming students who have satisfactorily completed equivalent graduate courses may be exempted by the directors of graduate studies and graduate advising from one or more of the required courses.
2. Students are required to take two courses outside the German studies program that complement the students' areas of interest in an interdisciplinary fashion. In their first semester students take all their coursework in the program. In subsequent semesters, students may take one course per semester outside the program. All courses taken outside the program must be approved by the directors of graduate study.
3. A total of 16 courses (including those enumerated above), two of which must be credit for work on the dissertation.
4. Demonstration of advanced reading knowledge of an additional foreign language (a language besides English and German) that is appropriate to the student's areas of research interest. This may be done at any point during the student's studies, but the requirement must be satisfied prior to the time that the doctoral thesis is submitted for the final defense.
5. A writing proficiency review, normally by the end of the second year.
6. A Ph.D. preliminary exam, normally by the end of the third year.
7. A dissertation chapter and prospectus review defense, normally by the end of the fourth year.
8. An oral dissertation defense, normally by the end of the fifth year.

In addition, students are strongly encouraged to attend the program's monthly "works-in-progress" seminar, at which faculty, advanced graduate students, and guests present their current research. Students are also strongly encouraged to audit one graduate course per semester once they have completed their required coursework, during terms in which they are in residence.

Qualifying Requirements

1. Satisfactory performance in all coursework.
2. Satisfactory performance in the teaching program.
3. Demonstration of proficiency in German, including all four competencies (reading, writing, speaking, and listening), at a level of C1 (according to the Common European Frame of Reference (https://www.coe.int/en/web/common-european-framework-reference-languages/table-1-cefr-3.3-common-reference-levels-global-scale/)), usually by the time the student enters the program or by the end of the first year of study.
4. Demonstration of reading knowledge in a second foreign language relevant to the student's research, as approved by the directors of graduate studies.
5. Up until the completion of their preliminary exam, all students will submit an annual plan of study report. Doing so encourages students to reflect in broad terms on their current intellectual interests and possible future trajectories for these interests. Visit the Annual Plan of Study Report (http://carolina-duke-grad.german.duke.edu/annual-plan-study-report/) web page for more information.
6. Successful completion of the writing proficiency review, normally by the end of the second year of study. Normally, students will submit a revision of a paper originally written for one of their courses.
7. Completion of the preliminary examination with a grade of "pass." The exam is normally taken in the third year of study.
8. Up until the completion of their preliminary exam, all students will submit an annual plan of study report. Doing so encourages students to reflect in broad terms on their current intellectual interests and possible future trajectories for these interests. Visit the Annual Plan of Study Report (http://carolina-duke-grad.german.duke.edu/annual-plan-study-report/) web page for more information.
9. Students who have completed their preliminary exam will submit a dissertation abstract instead of an annual plan of study report.
10. Participation in a bi-weekly dissertation colloquium once the student has successfully passed the preliminary examination, for each semester the student is in residence. Participants submit an abstract of their project at the beginning of each semester and share chapters of their work in progress.
11. Successful completion of a dissertation chapter review, usually by the end of the fourth year of study.

Coursework

Checklist of 16 Courses

1. Foreign Language Pedagogy

2. Foundations in German Studies, 1000 to 1750

3. Foundations in German Studies, 1750 to 1900

4. Foundations in German Studies, 1900 to the Present

5. Theories and Methods in German Studies

6–7. Electives: Courses from outside the program

8–14. Electives

15–16. Dissertation research

Carolina-Duke Courses

Students will enroll in courses both at Carolina and at Duke. In addition to the UNC German courses listed in this catalog, students should also look at the Duke graduate German courses (https://german.duke.edu/courses/).

Courses outside German Studies

Students will normally take at least two courses outside the German studies program. They are encouraged to take more as relevant to their interests and research.

All Carolina–Duke graduate students should familiarize themselves with Duke University's Responsible Conduct of Research (http://gradschool.duke.edu/academics/degree_reqs/rcr/) (RCR) requirements. International Carolina–Duke graduate students should familiarize

themselves with the English Language Proficiency (http://gradschool.duke.edu/academics/degree_reqs/eis.php) requirements.

Transfer Credit

Students coming in with an M.A. in German may, at the discretion of the directors of graduate studies, receive credit for coursework completed at their previous institution. Decisions about credit for prior coursework will be made at the end of the students' first year in the Carolina–Duke graduate program.

Reviews, Examinations, Dissertation

The Annual Plan of Study Report

All students are required to prepare and submit to the directors of graduate studies an updated plan of study form by January 31 of years one through three. Once the preliminary exam has been taken, students prepare and submit instead an abstract of their dissertation project.

The Writing Proficiency Review

For the writing proficiency review—an hour-long oral review that takes place in the second year of study—students submit a scholarly paper, normally written in English and about 30 pages in length, which expands and reworks a paper written for one of their courses. The director of graduate studies sets up a committee of three faculty members, including the student's primary advisor, in consultation with the student.

Ph.D. Committee

For the purpose of the preliminary examination and the dissertation chapter review, the Ph.D. committee consists of four faculty members, including the faculty advisor, selected by the student in consultation with the faculty advisor and the director of graduate studies. A fifth faculty member will be added to the committee for the dissertation defense. Typically, faculty members from the preliminary exam will also serve on the dissertation review and dissertation defense committees. At least one faculty member must come from each university department, and the majority of the committee must consist of Carolina–Duke German core faculty members.

The Preliminary Examination

The purpose of the preliminary exam is to ensure competency in a teaching field and to establish a comprehensive intellectual framework for the dissertation project. The exam should be designed so that students approach their teaching interests and dissertation research in such a way as to engage a set of broad questions that will speak to scholars both within and outside the field of German studies. The exam centers on two equally weighted lists, one of which generally concerns itself with a broadly defined literary field, such as a recognized period, movement, or genre across several periods. The other list focuses on a more specific topic such as represents the student's projected area of doctoral research, it being understood that by "area" of doctoral research something broader is envisioned than a list of texts immediately pertinent to the "topic" of the dissertation. In keeping with the prevalent conception of German studies, at least one of the exam lists ought to have a substantive interdisciplinary component; this might include integrating a particular historical span of literary production with an adjacent and related area, such as visual culture, music, religion, cultural anthropology, literary or critical theory, media studies, philosophy, linguistics, or political theory.

The preliminary examination has both a written and an oral component. The written portion of the exam is a take-home, open-book exam, consisting of two substantial questions, one on each field, given every other day. Students are given 48 hours per question and are expected to write for each question an original essay of roughly 15 pages on the assigned topic. Students are encouraged to make use of all available technology and of any materials, resources, databases, etc., they would normally consult while doing research. The oral portion of the exam, with questions from all examiners, lasts about 90 minutes and generally takes place no more than two weeks after the written exam.

Dissertation Overview

A successful German studies Ph.D. dissertation is expected to be a mature and competent piece of writing, embodying the results of significant and original research, and it must constitute a significant contribution to the field of German studies.

Following the preliminary exam in their third year of study, students are generally expected to complete their dissertation chapter review during their fourth year of study and to defend their dissertation by the end of the fifth year.

Once a student has begun work on the dissertation, the Annual Plan of Study requirement is replaced by a requirement that the student produce a dissertation abstract. This abstract is to be updated on an annual basis and, once it has been approved by the dissertation advisor, turned in by the deadline for the Annual Plan of Study.

Dissertation Chapter and Prospectus Review

In consultation with their advisor, students develop a dissertation project. Students submit to the dissertation review committee a chapter of 30 to 45 pages, a seven-to-ten-page overview of the dissertation, and a comprehensive bibliography. The oral review lasts approximately 90 minutes.

Dissertation Defense

When the student and the primary advisor are satisfied that a defensible draft is complete, they will offer it to the members of the committee for final approval and set a date for the final examination (also known as the dissertation defense). The defense will usually be held as soon after submission of the final draft as is practical and in keeping with University and Graduate School requirements.

Following each UNC faculty member's name is a section number that students should use when registering for independent studies, reading, research, and thesis and dissertation courses with that particular professor. For registrations at UNC for thesis or dissertation courses with a Duke professor, students should choose section (1).

Carolina–Duke Graduate Program in German Studies

carolina-duke-grad.german.duke.edu (https://carolina-duke-grad.german.duke.edu/)

Professors

Ruth von Bernuth (10) (UNC), Medieval and Early Modern, Jewish Studies, Yiddish, Popular Culture, Disability Studies
Stefani Engelstein (1) (Duke), Intellectual and Cultural History, Jewish Studies, 18th- and 19th-Century Literature
Richard Langston (7) (UNC), Postwar and Contemporary Literature, Avant-Garde Studies, Popular Culture and Literature, Literary and Cultural Theory

Priscilla Layne (16) (UNC), 20th- and 21st-Century Literature, Film and Music, (Post)Subculture Studies, Multiculturalism, Afro-German History and Culture, and Gender Studies
Jakob Norberg (1) (Duke), Postwar Literature and Society, 20th-Century Austrian Literature, Political Theory
Henry Pickford (1) (Duke), Aesthetics, Literary and Critical Theory, Philosophy and Literature, Aesthetics
David Pike (8) (UNC), 20th-Century Literature, East German and Soviet Culture and Politics

Associate Professors

Kata Gellen (1) (Duke), German Modernism, Austrian Literature, German-Jewish Studies
Inga Pollman (5) (UNC), Film and Media Theory and History, Early Cinema, German Cinema, Film and Science, Aesthetic and Critical Theory
Sarah Pourciau (1) (Duke), Aesthetics, Theology, Music and Sound, Literary and Critical Theory, Philosophy and Literature, Science and Culture, 19th and 20th Century, Modernism
Aleksandra Prica (15) (UNC), Medieval and Early Modern German Literature and Culture, Media Studies, Literature and the Bible, Literature and Knowledge, Poetology and Hermeneutics, Historical Processes, Aesthetics of Form
Gabriel Trop (11) (UNC), 18th-Century Studies, Poetry and Poetics, Romanticism, Philosophy and Aesthetics

Assistant Professors

Adi Nester (29) (UNC), Jewish Studies, 19th and 20th Century, Political Theory, Philosophy, Theories of Language and Translation, Music and Sound
Mert Bahadir Reisoğlu (1) (Duke), Turkish-German Studies, Media Theory and History, 20th- and 21st-Century Literature, Film and Theater, Intellectual History
Sophia Strietholt (20) (UNC), Second Language Acquisition, L2 Pedagogy, L2 Motivation Theory, Sociolinguistics
Tobias Wilke (21) (UNC), Modernism & Historical Avant-ardes, Media History and Media Theory, Literature and the History of Science, Sound Studies, Digital Theory

Teaching Associate Professor

Jocelyn Aksin (23) (UNC)

Lecturers

April Henry (Duke)

Adjunct Associate Professor

Dan Thornton (25) (UNC), Postwar German and Austrian Literature, Expressionism, Neue Sachlichkeit, Golden Age and 20th-Century Dutch Literature, Holocaust Studies, Jewish Literature in the Diaspora

Adjunct Assistant Professor

Heidi Madden (Duke), 19th Century, Comparative Literature and Theory

Professors Emeriti

Eric Downing (UNC)
Clayton Koelb (UNC)
Michael Morton (Duke)
Ann Marie Rasmussen (Duke)
Paul T. Roberge (UNC)
James Rolleston (Duke)

Professor of the Practice Emerita

Ingeborg Walther (Duke)

Associate Professors Emeriti

Walter K. Francke (UNC)
Norman Keul (Duke)

Assistant Professor Emerita

Helga Bessent (Duke)

Slavic and East European Languages and Literatures

Associate Professors

Radislav Lapushin (14), Russian Literature
Stanislav Shvabrin (22), Russian Literature

Assistant Professor

Eliza Rose (12), Polish and East-Central European Literature

Teaching Associate Professor

Natalia Chernysheva (24), Russian Language
Eleonora Magomedova (6), Russian Language

Teaching Assistant Professors

Matt McGarry (26), Russian Language

Lecturer

Agnieszka Majewska, Polish Language

Professors Emeriti

Madeline G. Levine
Hana Pichova
Peter Sherwood

Associate Professors Emeriti

Lawrence Feinberg
Christopher R. Putney
Ivana Vuletic

German (GERM)

Advanced Undergraduate and Graduate-level Courses

GERM 400. Grammar by Design: Unlocking the Rules of German Grammar. 3 Credits.
This advanced German grammar course invites participants to engage with language through the principles of scientific inquiry, fostering both analytical and creative thinking. Students will apply logic, imagination, and empirical testing to explore and justify grammatical rules, patterns, and deviation as they occur naturally in the German language. By generating and testing hypotheses about grammatical structures, learners will design investigations that challenge their understanding of the language, collect and interpret linguistic data, and make informed inferences that account for nuance and variation. The course includes a series of projects and presentations, allowing students to apply their findings in real-world contexts.

Rules & Requirements
Requisites: Prerequisite, GERM 204; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

GERM 410. Getting Medieval. Or: What Makes Us Modern?. 3 Credits.
In GERM 410 we will strive to understand what the adjective 'medieval' entails and juxtapose it with notions of what it means to be modern. We will examine mostly German medieval works of art and literature and put them in dialogue with modern adaptations of the Middle Ages.

Rules & Requirements
IDEAs in Action Gen Ed: FC-KNOWING or FC-PAST.
Grading Status: Letter grade.

GERM 416. The Viking Age. 3 Credits.
Lecture/discussion course on Viking culture, mythology, exploration, and extension of power in northern Europe (approx. 750-1050 CE) as represented in sagas, the Eddas, runic inscriptions, and chronicles. Readings and discussions in English. Previously offered as GERM 216.

Rules & Requirements
IDEAs in Action Gen Ed: FC-PAST.
Grading Status: Letter grade.

GERM 426. Play Time: Theater in the Medieval and Early Modern World. 3 Credits.
This course explores the vibrant world of medieval and early modern performance and theater. Students will discover how religious and secular plays were a formative component of marking time and creating community through their integration into liturgical practice, with Jews performing Purim plays and Christians staging plays at Christmas, during Carnival and Lent, and Easter. They will encounter entire cities transformed into public spaces of performance, often political and for days at a time.

Rules & Requirements
IDEAs in Action Gen Ed: FC-PAST.
Grading Status: Letter grade.

GERM 444. The Origins of Radical Thought. 3 Credits.
This course examines the historical conditions governing the emergence of radical thought in the nineteenth century with an emphasis on the German context. It will analyze some of the boldest thought experiments of the period--whether conservative or revolutionary, ideologically right or left--by following an intellectual itinerary from Hegel to Marx. We will then interrogate the consequences of this trajectory for contemporary theory and culture.

Rules & Requirements
IDEAs in Action Gen Ed: FC-PAST or FC-VALUES.
Grading Status: Letter grade.

GERM 449. Vienna, Munich, Berlin. Revolution in German Art ca. 1900. 3 Credits.
Investigation of the interconnectedness of turn-of-the-century arts, philosophy, and psychoanalysis with focus on Berlin and Vienna. Works by Hauptmann, Wedekind, Schnitzler, Freud, Schoenberg, Hofmannsthal, Hofmannsthal/Strauss, Rilke, and T. Mann. Class discussions and lectures in English Reading in English (German optional).

Rules & Requirements
IDEAs in Action Gen Ed: FC-AESTH or FC-PAST.
Grading Status: Letter grade.

GERM 450. Nietzsche, Hesse, and Mann. 3 Credits.
Explores Nietzsche on literature, and Hesse's and Mann's literary thematization of Nietzsche's philosophy. Emphasis on conceptions of character, myth, music, and language, and Nietzsche's cultural and moral critique and its reevaluation in light of the 20th century political crises. Taught in English; some readings in German for qualified students.

Rules & Requirements
Grading Status: Letter grade.

GERM 465. German Guilt, Suffering and, Trauma. 3 Credits.
This course explores canonical German literary texts written between 1945 and 2000 that wrestle with the historical transformation of German guilt for world war and genocide into suffering and trauma.

Rules & Requirements
IDEAs in Action Gen Ed: FC-AESTH or FC-VALUES.
Grading Status: Letter grade.

GERM 467. Contemporary German and Austrian Cinema. 3 Credits.
Examines exciting new directions in German and Austrian cinema from the past 20 years. By analyzing weekly films, students develop skills in film analysis and criticism; read reviews, interviews, and film-theoretical texts; write a film review; and produce a critical essay. Films with English subtitles; readings and discussions in English. Students may not receive credit for both GERM 367 and 467. Previously offered as CMPL 267/ GERM 267.

Rules & Requirements
IDEAs in Action Gen Ed: FC-AESTH or FC-KNOWING.
Grading Status: Letter grade.
Same as: CMPL 467.

GERM 474. Words and Pictures: Literature and Photography in the 20th Century. 3 Credits.
The course examines literary responses to the medium of photography from the early 20th to the early 21st century. It explores how the "realism" of photographic images challenged, inspired, and transformed the character of literary narration. It asks about the ways in which literary texts used and incorporated photographs for their own fictional and documentary purposes. And it relates these aesthetic purposes to the particular socio-political contexts--ranging from the rise of modernity around 1900 to post-modern debates around 2000--in which the respective works were produced. Authors include Kafka, Rilke, Benjamin, Kluge, Barthes, Sontag, and Sebald. Taught in English.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-PAST.
Grading Status: Letter grade.
Same as: CMPL 474.

GERM 475. Different than the Others: Stories of Queer German Liberation, 1864-2021. 3 Credits.
This English-language seminar introduces students to over 150 years of LGBTQ+ repression and liberation in German-speaking Europe, from the prohibition of same-sex acts in 1871 to the present, through the lens of German literature and film. Readings and class discussions in English. Previously offered as GERM 282.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-POWER.
Grading Status: Letter grade.

GERM 481. Berlin: Mapping a (Post) Modern Metropolis. 3 Credits.
This course aims to capture the spirit of the city as students engage in multiple texts from the 19th and 20th centuries representative of the city's literary, cultural, and visual history. The texts range from Theodor Fontane's bourgeoisie in Mitte to the Turkish-German minority in Kreuzberg. In addition to reading literary texts, students will also watch films and music videos, and discuss art and architecture.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-PAST.
Grading Status: Letter grade.

GERM 483. Recycling the Past: East German Literature. 3 Credits.
Explores the practice in East Germany of adapting earlier literatures and setting contemporary narratives in distant times. East German authors used cultural heritage as a screen for utopian sentiments and for pursuing the relationships between everyday life, historical conditions, and political circumstances. Readings and discussions in English.

Rules & Requirements

IDEAs in Action Gen Ed: FC-PAST.
Grading Status: Letter grade.

GERM 493. Internship in German. 3 Credits.
This course enables a student to earn a maximum of three credit hours for a faculty-supervised internship directly related to the study of German literature or culture, or that uses the German language in day-to-day conduct of business in a German-speaking environment.

Rules & Requirements

IDEAs in Action Gen Ed: HI-INTERN.
Requisites: Prerequisite, GERM 303.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.
Global Language: Level 6.

GERM 500. History of the German Language. 3 Credits.
Development of phonology and morphosyntax from ancient times to present. Political, social, and literary forces influencing the language.

Rules & Requirements
Requisites: Prerequisites, GERM 302 and 303; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

GERM 501. Structure of German. 3 Credits.
LING 101 recommended for undergraduates. Introduction to formal analysis of German grammar (phonology, morphophonemics, prosodics, morphology, syntax) within the framework of generative grammar.

Rules & Requirements
Requisites: Prerequisites, GERM 302 and 303; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.
Same as: LING 567.

GERM 505. Early New High German. 3 Credits.
Permission of the instructor for undergraduates. Reading and linguistic analysis of Early New High German texts, with study of phonology, morphology, and syntax. On demand.

Rules & Requirements
Grading Status: Letter grade.

GERM 508. Old High German. 3 Credits.
Permission of the instructor for undergraduates. Reading and linguistic analysis of Old High German texts, with study of phonology, morphology, and syntax; comparison of the various dialects with other older dialects of Germanic. On demand.

Rules & Requirements
Grading Status: Letter grade.

GERM 511. Old Saxon. 3 Credits.
Permission of the instructor for undergraduates. Reading and linguistic study of biblical texts (Heliand, Genesis) in Old Saxon, with study of phonology, morphology, and syntax; comparison with Old English, Old High German, and other Germanic dialects. On demand.

Rules & Requirements
Grading Status: Letter grade.

GERM 514. Old Norse I (Old Icelandic). 3 Credits.
Permission of the instructor for undergraduates. Reading and linguistic analysis of Old Norse (Old Icelandic) texts, with study of phonology, morphology, and syntax; comparison with other older dialects of Germanic. On demand.

Rules & Requirements
Grading Status: Letter grade.

GERM 515. Old Norse II (Old Icelandic). 3 Credits.
Permission of the instructor for undergraduates. Continuation of GERM 514. On demand.

Rules & Requirements
Grading Status: Letter grade.

GERM 517. Gothic. 3 Credits.
Permission of the instructor for undergraduates. Reading and linguistic analysis of Gothic biblical texts, with study of phonology, morphology, and syntax; comparison with other older dialects of Germanic. On demand.

Rules & Requirements
Grading Status: Letter grade.

GERM 520. Stylistics: Theory and Practice. 3 Credits.
LING 101 recommended for undergraduates. Study of stylistic theories and practices in literature and linguistics, analysis of a large variety of texts, written exercises, training in the use of stylistic devices.

Rules & Requirements
Requisites: Prerequisites, GERM 302 and 303; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

GERM 521. Variation in German. 3 Credits.
LING 101 recommended for undergraduates. Major topics in sociolinguistics: development of the German language, traditional dialects, variation in contemporary speech, German as a minority language (Alsace, Belgium), German outside of Germany (Austria, Switzerland, Luxemburg, Liechtenstein).

Rules & Requirements
Requisites: Prerequisites, GERM 302 and 303; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

GERM 545. Problems in Germanic Linguistics. 3 Credits.
LING 101 recommended for undergraduates. Special problems will be selected for intensive investigation. Subject matter of the course will be adapted to the particular interests of the students and instructor.

Rules & Requirements
Requisites: Prerequisites, GERM 302 and 303; permission of the instructor for students lacking the prerequisites.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

GERM 552. Structuralism, Poststructuralism, Posthumanism. 3 Credits.
This course offers a survey of structuralist, poststructuralist, and posthumanist thought. It examines in particular how these forms of thought address the ethical, political, ecological, aesthetic and existential challenges of the present.

Rules & Requirements
IDEAs in Action Gen Ed: FC-KNOWING.
Grading Status: Letter grade.

GERM 555. Interrogating Cultures of Fascism: Introduction to Frankfurt School's Critical Theory 1923-Present. 3 Credits.
This research-intensive seminar for advanced undergraduates covers the history of the Frankfurt School and the scope of its theory for contemporary social, political, and cultural analysis. Taught in English; some readings in German for qualified students. Students must have junior or senior standing or have permission of the instructor. This 500-level course has no prerequisites. Because of the complexity of the texts, students should have at least sophomore and prior classroom experience with philosophical texts.

Rules & Requirements
IDEAs in Action Gen Ed: FC-KNOWING or FC-POWER.
Grading Status: Letter grade.

GERM 556. Language Remains: Exploring the German-Jewish Dialogue. 3 Credits.
This course explores German-Jewish writing before and after the Holocaust, focusing on the social and political position of Jews as a minority in German-speaking countries and how those are manifest in their writing and relation to the German language. Previously offered as GERM 466/JWST 466.

Rules & Requirements
IDEAs in Action Gen Ed: FC-AESTH or FC-POWER.
Grading Status: Letter grade.
Same as: JWST 556.

GERM 560. 20th-Century German Philosophy and Modern Youth Cultures. 3 Credits.
This philosophical Approaches course investigates the rich European intellectual foundations on which 20th-century youth culture erected its triumvirate of sex, drugs, and rock music. Previously offered as GERM 280.

Rules & Requirements
IDEAs in Action Gen Ed: FC-KNOWING or FC-VALUES.
Grading Status: Letter grade.

GERM 570. German Intellectual History. 3 Credits.
Intellectual history is the examination of ideas and thinkers as they emerge and become significant in particular cultural and historical contexts. This course will focus on German intellectuals and explore their ideas and concepts as a springboard for us to challenge our own frameworks of understanding. Taught in English.

Rules & Requirements
IDEAs in Action Gen Ed: FC-KNOWING or FC-PAST.
Grading Status: Letter grade.

GERM 572. The Fourth Dimension: The German Netflix Series "Dark" and the Mystery of Time. 3 Credits.
In this course we will follow the narrative of one of the most recent cinematic explorations of the topic of time - the German Netflix series "Dark" (2017-2020) - into the great depths of theories and imaginations of time. The discussion of the series will be accompanied and supported by an introduction to the philosophy of time.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-KNOWING.
Grading Status: Letter grade.

GERM 579. What is a Medium? German Media Theory from Aesthetics to Cultural Techniques. 3 Credits.
This seminar provides students across the humanities with an overview of the historical and cultural relevance of German media theories. We will discuss the distinction between "art" and "medium", the role of technology and techniques, as well as the interaction of media theory and practice with politics. Films with English subtitles; readings and discussions in English. Previously offered as CMPL 479/GERM 479.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-KNOWING.
Grading Status: Letter grade.
Same as: CMPL 579.

GERM 587. Theories of Migration of the 20th and 21st Centuries. 3 Credits.
In this course we will engage with different theories around how migration affects societies by taking the Federal Republic of Germany (FRG) as a case study. Since its founding in 1945, the FRG has seen several waves of migration. In this class we will read several theoretical texts and two novels to consider how Germany has been shaped by migration.

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL or FC-POWER.
Grading Status: Letter grade.

GERM 590. Topics in Germanic Linguistics. 3 Credits.
LING 101 recommended for undergraduates.

Rules & Requirements
Requisites: Prerequisites, GERM 302 and 303; permission of the instructor for students lacking the prerequisites.
Repeat Rules: May be repeated for credit. 12 total credits. 4 total completions.
Grading Status: Letter grade.

GERM 601. Elementary German for Graduate Students. 3 Credits.
Permission of the instructor for undergraduates. With GERM 602, a two-semester sequence designed as preparation for the reading knowledge examination for higher degrees in the humanities, social sciences, physical sciences, etc.

Rules & Requirements
Grading Status: Letter grade.

GERM 602. Elementary German for Graduate Students, Continued. 3 Credits.
Permission of the instructor for undergraduates. Continuation of GERM 601.

Rules & Requirements
Grading Status: Letter grade.

GERM 605. Comparative Germanic Grammar. 3 Credits.
Permission of the instructor for undergraduates. LING 101 recommended for undergraduates. Analysis of phonological, morphological, and syntactic development from Indo-European to the older stages of Germanic dialects.

Rules & Requirements
Grading Status: Letter grade.

Graduate-level Courses

GERM 700. Foreign Language Pedagogy: Theories and Practice. 3 Credits.
For prospective teachers of German. Required of all teaching assistants.

Rules & Requirements
Grading Status: Letter grade.

GERM 703. Advanced Topics in Foreign Language Pedagogy. 3 Credits.
This seminar provides experienced teaching assistants the opportunity to revisit the fundamentals in foreign language pedagogy while exploring in greater depth advanced issues like content-based instruction, technology, and supervising.

Rules & Requirements
Requisites: Prerequisite, GERM 700.
Grading Status: Letter grade.

GERM 706. Theories and Methods in German Studies. 3 Credits.
This seminar introduces students to methods of academic work in German Studies. As a discipline with deep historical and interdisciplinary roots, German Studies shares a wide array of theoretical approaches to its subject matter with other fields in the Humanities. We will examine a variety of these approaches including rhetoric, genre theory, hermeneutics, aesthetics, deconstruction, linguistics and speech act theory, psychoanalysis, structuralism and semiotics, critical theory, new historicism, gender theory, and media theory.

Rules & Requirements
Grading Status: Letter grade.

GERM 714. Foundations in German Studies I. 3 Credits.
First part of a three-semester sequence offering students a comprehensive, text-based survey of German literary history from the High Middle Ages to the present. The course introduces students to medieval German language, literature, and culture. Readings in English, German and Middle High German. Discussions in German. Previously offered as GERM 614. Permission of the instructor for undergraduates.

Rules & Requirements
Grading Status: Letter grade.

GERM 715. Foundations in German Studies II. 3 Credits.
Second part of a three-semester sequence offering students a comprehensive, text-based survey of German literary history from the High Middle Ages to the present. Previously offered as GERM 615. Permission of the instructor for undergraduates.

Rules & Requirements
Grading Status: Letter grade.

GERM 716. Foundations in German Studies III. 3 Credits.
Third part of a three-semester sequence offering students a comprehensive, text-based survey of German literary history from the High Middle Ages to the present. Previously offered as GERM 616. Permission of the instructor for undergraduates.

Rules & Requirements
Grading Status: Letter grade.

GERM 725. Early Modern Literature. 3 Credits.
German literature of the 15th, 16th, and 17th centuries. Close readings, lectures, and discussions of representative texts. Previously offered as GERM 625. Permission of the instructor for undergraduates.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

GERM 730. 18th-Century Literature. 3 Credits.
Literature in the Age of Enlightenment. Close readings, lectures, and discussions of representative texts. Previously offered as GERM 630. Permission of the instructor for undergraduates.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

GERM 740. Early 19th-Century Literature. 3 Credits.
Literature of the Romantic period. Close readings, lectures, and discussions of representative texts. Previously offered as GERM 640. Permission of the instructor for undergraduates.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

GERM 745. Later 19th-Century Literature. 3 Credits.
Literature of Realism, Naturalism, and related movements. Close readings, lectures, and discussions of representative texts. Previously offered as GERM 645. Permission of the instructor for undergraduates.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

GERM 750. Early 20th-Century Literature. 3 Credits.
Major figures of the period from the turn of the century to World War II. Close readings, lectures, and discussions of representative texts. Previously offered as GERM 650. Permission of the instructor for undergraduates.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

GERM 755. Later 20th-Century Literature. 3 Credits.
Literature since World War II in both the Federal Republic and the former GDR. Close readings, lectures, and discussions of representative texts. Previously offered as GERM 655. Permission of the instructor for undergraduates.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

GERM 785. Early 21st-Century German Literature. 3 Credits.
Literature since German unification in 1989. Close readings, lectures, and discussions of representative texts. Previously offered as GERM 685. Permission of the instructor for undergraduates.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

GERM 820. Topics in Medieval Literature. 3 Credits.
Selected topics in medieval literature. Topics will vary by offering.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

GERM 825. Topics in Early Modern Literature. 3 Credits.
Selected topics in early modern literature. Topics will vary by offering.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

GERM 830. Topics in 18th-Century Literature. 3 Credits.
Selected topics in 18th-century literature. Topics will vary by offering.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

GERM 840. Topics in Early 19th-Century Literature. 3 Credits.
Selected topics in early 19th-century literature. Topics will vary by offering.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

GERM 845. Topics in Later 19th-Century Literature. 3 Credits.
Selected topics in later 19th-century literature. Topics will vary by offering.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

GERM 850. Topics in Early 20th-Century Literature. 3 Credits.
Selected topics in early 20th-century literature. Topics will vary by offering.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

GERM 855. Topics in Later 20th-Century Literature. 3 Credits.
Selected topics in later 20th-century literature. Topics will vary by offering.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

GERM 860. Topics in Aesthetics and Criticism. 3 Credits.
Selected topics in aesthetics and criticism. Topics will vary by offering.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

GERM 861. Topics in Literary Genres. 3 Credits.
Explores issues associated with various literary genres across various literary periods.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

GERM 865. Topics in German Cultural Studies. 3 Credits.
Selected topics in German cultural studies. Topics will vary by offering.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

GERM 866. Melancholia. 3 Credits.
This seminar will examine the historical variability of melancholy as it relates to works of visual art and literature, as well as philosophical, religious, psychological, and medical discourses from French, German, Italian and English-speaking Europe. Emphasis will be placed on German literature from the Middle Ages to the 20th century and on exploring the inherent melancholy of its modes of imagination, expression, and representation.

Rules & Requirements
Grading Status: Letter grade.
Same as: CMPL 866.

GERM 870. Topics in Gender Studies. 3 Credits.
Selected topics in gender studies. Topics will vary by offering.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

GERM 875. Topics in German Jewish Studies. 3 Credits.
Selected topics in German Jewish studies. Topics will vary by offering.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

GERM 880. Topics in German Cinema. 3 Credits.
Selected topics in German cinema. Topics will vary by offering.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

GERM 885. Topics in 21st Century German Literature. 3 Credits.
Selected topics in 21st-century literature. Topics will vary by offering.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

GERM 889. Special Topics in German Literature, Culture, Film: Compact Seminar. 3 Credits.
An intensive seven-week seminar to be offered exclusively during fall semesters, this graduate-level course is taught by a distinguished short-term scholar with expertise in German literature, film or culture who is visiting from a German-speaking country.

Rules & Requirements
Repeat Rules: May be repeated for credit. 12 total credits. 4 total completions.
Grading Status: Letter grade.

GERM 896. Independent Readings. 1-12 Credits.
Permission of the instructor and the director of graduate studies. Special readings and research in a selected field or topic outside the scope of current course offerings.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

GERM 899. Graduate Study Abroad Credit. 3-9 Credits.
Registration course credit for students who are registered abroad as part of a graduate foreign exchange program.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

GERM 980. Seminar in German Literature. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

GERM 985. Seminar in German Linguistics. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

GERM 992. Master's (Non-Thesis). 3 Credits.
Students enrolled in the Carolina-Duke Graduate Program in German Studies will enroll in this course during the semester in which they undergo the Writing Proficiency Review.

Rules & Requirements
Repeat Rules: May be repeated for credit.

GERM 994. Doctoral Research and Dissertation. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

Duke German Studies Courses

(Please check the Duke University course catalog (http://registrar.duke.edu/courses-classrooms/course-catalog/).)

Dutch (DTCH)

Advanced Undergraduate and Graduate-level Courses

DTCH 402. Elementary Dutch. 3 Credits.
The first course in the Dutch language sequence, DTCH 402 is a rapid introduction to modern Dutch with emphasis on all fundamental components of communication. Completion of DTCH 402 fulfills level 2 of a foreign language.

Rules & Requirements
Grading Status: Letter grade.
Global Language: Level 1 & 2 combined.

DTCH 403. Intermediate Dutch. 3 Credits.
The second course in the Dutch language sequence, DTCH 403 focuses on increased skills in speaking, listening, reading, global comprehension, and communication. Emphasis on reading and discussion of longer texts. Completion of DTCH 403 fulfills level 3 of a foreign language.

Rules & Requirements
IDEAs in Action Gen Ed: GLBL-LANG.
Requisites: Prerequisite, DTCH 402; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Global Language: Level 3.

DTCH 404. Advanced Intermediate Dutch. 3 Credits.
This third Dutch course completes the language sequence. DTCH 404 aims to increase proficiency in language skills (reading, speaking, writing) and is constructed around a series of themes meant to introduce students to Dutch society, culture, and history. Completion of DTCH 404 fulfills level 4 of a foreign language.

Rules & Requirements
Requisites: Prerequisite, DTCH 403; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Global Language: Level 4.

DTCH 405. Topics in Dutch Culture: A Literary Survey. 3 Credits.
Ability to read and speak Dutch at intermediate to advanced level recommended. Introduction to Dutch literature from Middle Ages to the present. Survey of topics in Dutch culture.

Rules & Requirements
Requisites: Prerequisite, DTCH 404; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Global Language: Level 5.

Graduate-level Courses

DTCH 896. Independent Readings in Dutch. 3 Credits.
Special readings and research in a selected field or topic under the direction of a faculty member.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

Slavic (SLAV)

Advanced Undergraduate and Graduate-level Courses

SLAV 464. Imagined Jews: Jewish Themes in Polish and Russian Literature. 3 Credits.
Explores the fictional representation of Jewish life in Russia and Poland by Russian, Polish, and Jewish authors from the 19th century to the present. Taught in English; some foreign language readings for qualified students.

Rules & Requirements
Grading Status: Letter grade.
Same as: JWST 464.

SLAV 469. Coming to America: New York in Yiddish Literature and Culture. 3 Credits.
New York was a significant gateway for immigration to the United States, particularly for Jews from Eastern Europe in the late 19th and early 20th centuries. As a result, the city became the world's capital of Yiddish culture. This course explores the vibrant world of Yiddish literature, theater, poetry, journalism, and political activism that flourished in New York, shaping its unique "Nyu-Yorkrish" qualities. Through a diverse selection of texts, we will trace the evolution of Yiddish creativity in America's cultural capital.

Rules & Requirements
IDEAs in Action Gen Ed: FC-AESTH or FC-POWER.
Grading Status: Letter grade.
Same as: JWST 469.

SLAV 470. 20th-Century Russian and Polish Theater. 3 Credits.
A comparative survey of the major trends in 20th-century Russian and Polish dramaturgy and theatrical production, with attention to aesthetic, professional, and political connections between the two. Taught in English; some foreign language readings for qualified students.

Rules & Requirements
Grading Status: Letter grade.

SLAV 490. Topics in Slavic Culture. 3 Credits.
Comparative study of topics in non-Russian Slavic literatures and culture not covered in any other course. Specific topics will vary and will be announced in advance. Taught in English; some foreign language readings for qualified students.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

Graduate-level Courses

SLAV 796. Reading Course. 3 Credits.
Permission of the instructor. Special readings and research in a selected field or topic under the direction of a faculty member.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

SLAV 994. Doctoral Research and Dissertation. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

Russian (RUSS)

Advanced Undergraduate and Graduate-level Courses

RUSS 409. Intermediate-to-Advanced Russian Communication, Conversation, and Composition in Context I. 3 Credits.
Intermediate-to-advanced communication, conversation, composition, phonetics, and grammar in contemporary cultural context. Meets the needs of learners looking to expand their practical knowledge of contemporary standard Russian in the context of present-day culture, while developing active applied skills pertaining to comprehension, production of, and communication in Russian.

Rules & Requirements
IDEAs in Action Gen Ed: COMMBEYOND.
Requisites: Prerequisite, RUSS 204; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Global Language: Level 5.

RUSS 410. Intermediate-to-Advanced Russian Communication, Conversation, and Composition in Context II. 3 Credits.
Hones skills necessary for advanced communication, conversation, and composition. Presents phonetics and grammar in contemporary cultural context. Learners expand their practical knowledge of contemporary standard Russian in the context of present-day culture, while developing applied skills pertaining to comprehension, production of, and communication in Russian actively using authentic cultural materials.

Rules & Requirements
IDEAs in Action Gen Ed: FC-GLOBAL.
Requisites: Prerequisite, RUSS 409; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Global Language: Level 6.

RUSS 411. Advanced Communication, Conversation, and Composition in Contemporary Standard Russian I. 3 Credits.
Develops and maintains advanced skills for speaking, writing, listening, and reading in contemporary standard Russian in a variety of communicative situations. Assists advanced learners in solving a wide range of communicative tasks with the aid of unadapted authentic cultural materials.

Rules & Requirements
IDEAs in Action Gen Ed: FC-AESTH.
Requisites: Prerequisite, RUSS 410; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Global Language: Level 6.

RUSS 412. Advanced Communication, Conversation, and Composition in Contemporary Standard Russian II. 3 Credits.
Prepares advanced learners of contemporary standard Russian for communication with educated native speakers of the language in the area of their professional competence. Furthers interactive skills for speaking, writing, listening, and reading in a variety of communicative situations pertaining to the learners' professional expertise.

Rules & Requirements
IDEAs in Action Gen Ed: COMMBEYOND.
Requisites: Prerequisite, RUSS 411; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Global Language: Level 6.

RUSS 415. Introduction to Russian Literature. 3 Credits.
Reading and discussion of selected authors in Russian aimed at improving reading skill and preparing the student for higher level work in Russian literature. Readings and class discussions in Russian. Course previously offered as RUSS 250.

Rules & Requirements
IDEAs in Action Gen Ed: FC-AESTH.
Requisites: Prerequisite, RUSS 410; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Global Language: Level 6.

RUSS 445. 19th Century Russian Literature and Culture. 3 Credits.
A survey of the major novels and stories of 19th century Russian fiction, which have entered the canon of world classics and redefined the idea of literature. Taught in English; some readings in Russian for qualified students.

Rules & Requirements
IDEAs in Action Gen Ed: FC-AESTH or FC-PAST.
Grading Status: Letter grade.

RUSS 450. The Russian Absurd: Text, Stage, Screen. 3 Credits.
Examines "The Absurd" in Russian literature and culture as it developed from 19th century to the present. Through works by important Russian writers and representative films students encounter facets of "The Russian Absurd" viewed as literary, cultural, and social phenomena. Taught in English; some readings in Russian for qualified students.

Rules & Requirements
Grading Status: Letter grade.

RUSS 455. 20th-Century Russian Literature and Culture. 3 Credits.
As Russia became a laboratory for sociopolitical experiments of global significance, its culture reflected on the most spectacular of its aspirations and failures. Course surveys 20th-century literary, musical and cinematic artifacts that emerged to affect the world profoundly. Taught in English; some readings in Russian for qualified students.

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING.
Grading Status: Letter grade.

RUSS 461. Soviet Socialist Realism: Making the World Anew. 3 Credits.
This upper level undergraduate survey course introduces students to highly contextualized socio-literary phenomenon commonly known as Soviet Socialist Realism. The course covers Socialist Realism from its nascent beginnings at the turn of the twentieth century in the work of Maxim Gorky through its official adoption in the 1930s up to the end of the Second World War. Taught in English; some readings in Russian for qualified students.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-PAST.
Grading Status: Letter grade.

RUSS 464. Dostoevsky. 3 Credits.
Study of major works of Dostoevsky and a survey of contemporary literary and cultural trends relevant to his creative career. Taught in English; some readings in Russian for qualified students.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-PAST.
Grading Status: Letter grade.

RUSS 465. Chekhov. 3 Credits.
Study of major works of Chekhov and survey of contemporary literary and cultural trends relevant to his creative career. Taught in English; some readings in Russian for qualified students.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-PAST.
Grading Status: Letter grade.

RUSS 471. Gogol. 3 Credits.
Study of major works of N. V. Gogol and a survey of contemporary authors and literary trends relevant to his creative career. Lectures and seminar discussions. Taught in English; some readings in Russian for qualified students.

Rules & Requirements
Grading Status: Letter grade.

RUSS 477. Wicked Desire: Vladimir Nabokov, Lolita, on Page and Screen. 3 Credits.
Vladimir Nabokov's novel Lolita (1955) became a global phenomenon due to its unflinching portrayal of pedophilia. This course will delve deeper into the novel's moral complexity, its international context, and its reflection in mass culture, including movies by Stanley Kubrick (1962) and Adrian Lyne (1997). Taught in English; some readings in Russian for qualified students.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH.
Grading Status: Letter grade.
Same as: CMPL 477.

RUSS 479. Tolstoy. 3 Credits.
Study of the major works of Tolstoy and a survey of contemporary authors and literary trends relevant to his creative career. Taught in English; some readings in Russian for qualified students.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-PAST.
Grading Status: Letter grade.

RUSS 480. Russian-Soviet Jewish Culture: Lofty Dreams and Stark Realities. 3 Credits.
This course delves into the scintillating literary, visual, musical, and cinematic culture created by Jewish universalists seeking to build their new secular identity under the aegis of the Soviet Communist experiment in the aftermath of the 1917 Bolshevik coup. Surveys the works of Isaac Babel, Eduard Bagritsky, Marc Chagall, Sergey Eisenstein, Ilya Ehrenburg, Masha Gessen, Vasily Grossman, Osip Mandelshtam, and others. Taught in English; some readings in Russian for qualified students; films with English subtitles. Honors version available.

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL or FC-PAST.
Grading Status: Letter grade.
Same as: JWST 480.

RUSS 486. Exploration of Russian "Women's Prose" and Svetlana Alexievich (Nobel Prize in Literature 2015). 3 Credits.
Using Alexievich as our beacon, we will explore the writers behind the term "Russian Women's Prose": Valeria Narbikova, Lyudmila Petrushevskaya, Tatyana Tolstaya, and Lyudmila Ulitskaya. The course will delve into gender identity and body politics as they manifest themselves in the literary texts of lasting aesthetic quality and social relevance. Taught in English; some readings in Russian for qualified students.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-GLOBAL.
Grading Status: Letter grade.
Same as: WGST 486, EURO 486.

RUSS 490. Topics in Russian Culture. 3 Credits.
Study of topics in Russian literature and culture not currently covered in any other course. The specific topic will be announced in advance. Taught in English. Some readings in Russian for qualified students.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

RUSS 515. Advanced Russian Communication, Composition and Grammar in the Professions I. 3 Credits.
RUSS 515 provides advanced learners with opportunities to develop linguo-cultural skills necessary to practice their profession in Russian. While engaged in academic discourse in contemporary standard Russian, learners research topics in their academic majors, prepare and give presentations and lead discussions focusing on their areas of professional competence. In addition to student-centered segments, the course comprises instructor-led discussions of current affairs and academic subjects. Readings, viewing materials, and discussions in Russian.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH, COMMBEYOND.
Requisites: Prerequisites, RUSS 412 or permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

RUSS 516. Advanced Russian Communication, Composition and Grammar in the Professions II. 3 Credits.
A continuation of RUSS 515, RUSS 516 develops and maintains the linguo-cultural skills of advanced-to-professional learners by preparing them for professional study-abroad experiences at Russophone institutions of higher learning. A seminar-style course with rotating instructors, it engages learners in contemplation, research, and discussion of subjects within the instructor's professional expertise. Readings, viewing materials, and discussions in Russian.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH, COMMBEYOND.
Requisites: Prerequisites, RUSS 515 or permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

RUSS 562. Structure of Russian. 3 Credits.
Examines Russian from the perspective of linguistic analysis. How do sounds, words, and sentences pattern in Russian? How do these compare with patterns in other languages? Also considers the influence of evidence from Russian on the development of linguistic theory.

Rules & Requirements
Requisites: Prerequisite, LING 101 or RUSS 102; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Same as: LING 562.

Czech (CZCH)

Advanced Undergraduate and Graduate-level Courses

CZCH 401. Elementary Czech I. 3 Credits.
Proficiency-based instruction at the elementary level that develops the four language skills (speaking, listening, reading, writing). In addition to mastering basic vocabulary and grammar, students will communicate in Czech about everyday topics.

Rules & Requirements
Grading Status: Letter grade.
Global Language: Level 1.

CZCH 402. Elementary Czech II. 3 Credits.
Continuation of the proficiency-based instruction in CZCH 401. Course emphasizes speaking, listening, reading, writing in a cultural context. Students enhance their basic vocabulary and grammar and will regularly communicate in Czech about everyday topics.

Rules & Requirements
Requisites: Prerequisite, CZCH 401; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Global Language: Level 2.

CZCH 403. Intermediate Czech I. 3 Credits.
Continuation of proficiency-based instruction begun in Elementary Czech.

Rules & Requirements
IDEAs in Action Gen Ed: GLBL-LANG.
Requisites: Prerequisite, CZCH 402; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Global Language: Level 3.

CZCH 404. Intermediate Czech II. 3 Credits.
Continuation of proficiency-based instruction begun in Elementary Czech.

Rules & Requirements
Requisites: Prerequisite, CZCH 403; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Global Language: Level 4.

CZCH 405. Advanced Czech I. 3 Credits.
Advanced readings and discussion in Czech in humanities and social science topics.

Rules & Requirements
Requisites: Prerequisite, CZCH 404; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Global Language: Level 5.

CZCH 406. Advanced Czech II. 3 Credits.
Advanced readings and discussion in Czech in humanities and social science topics, continued.

Rules & Requirements
Requisites: Prerequisite, CZCH 405; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Global Language: Level 6.

CZCH 411. Introduction to Czech Literature. 3 Credits.
Introduction to Czech literature with an emphasis on 19th- and 20th-century prose. Taught in English. Some readings in Czech for qualified students.

Rules & Requirements
Grading Status: Letter grade.

CZCH 469. Milan Kundera and World Literature. 3 Credits.
This course traces Milan Kundera's literary path from his communist poetic youth to his present postmodern Francophilia. His work will be compared with those authors he considers his predecessors and influences in European literature. Taught in English. Some readings in Czech for qualified students.

Rules & Requirements
IDEAs in Action Gen Ed: FC-AESTH.
Grading Status: Letter grade.
Same as: CMPL 469.

CZCH 490. Topics in Czech Culture. 3 Credits.
Study of topics in Czech and/or Slovak literature and culture not currently covered in any other course. The specific topic will be announced in advance. Taught in English. Some readings in Czech for qualified students.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

Hungarian (HUNG)

Advanced Undergraduate and Graduate-level Courses

HUNG 401. Elementary Hungarian. 3 Credits.
Pronunciation, structure of language, and reading in modern Hungarian.

Rules & Requirements
Grading Status: Letter grade.
Global Language: Level 1.

HUNG 402. Elementary Hungarian. 3 Credits.
Pronunciation, structure of language, and reading in modern Hungarian, continued.

Rules & Requirements
Grading Status: Letter grade.
Global Language: Level 2.

HUNG 403. Intermediate Hungarian Language. 3 Credits.
Continuation of the proficiency-based instruction begun in Elementary Hungarian.

Rules & Requirements
IDEAs in Action Gen Ed: GLBL-LANG.
Grading Status: Letter grade.
Global Language: Level 3.

HUNG 404. Intermediate Hungarian Language. 3 Credits.
Continuation of the proficiency-based instruction begun in Elementary Hungarian, continued.

Rules & Requirements
Grading Status: Letter grade.
Global Language: Level 4.

HUNG 405. Advanced Hungarian. 3 Credits.
Advanced readings and discussion in Hungarian in humanities and social science topics.

Rules & Requirements
Requisites: Prerequisite, HUNG 404; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Global Language: Level 5.

HUNG 406. Advanced Hungarian. 3 Credits.
Advanced readings and discussion in Hungarian in humanities and social science topics, continued.

Rules & Requirements
Grading Status: Letter grade.
Global Language: Level 6.

HUNG 407. The Structure of Modern Hungarian. 3 Credits.
Introduction to the phonology, morphology, and syntax of modern standard Hungarian, with emphasis on some of its distinctive typological features.

Rules & Requirements
Requisites: Prerequisite, HUNG 401 or LING 101.
Grading Status: Letter grade.

HUNG 411. Introduction to Hungarian Literature. 3 Credits.
An introduction to Hungarian literature of the last five centuries through a selection of works in English translation, with supporting background materials including films (with English subtitles). Taught in English; some readings in Hungarian for qualified students.

Rules & Requirements
Grading Status: Letter grade.

HUNG 490. Topics in Hungarian Culture. 3 Credits.
Study of topics in Hungarian literature and culture not currently covered in any other course. The specific topic will be announced in advance. Taught in English; some readings in Hungarian for qualified students.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

Macedonian (MACD)

Advanced Undergraduate and Graduate-level Courses

MACD 401. Elementary Macedonian. 3 Credits.
Pronunciation, structure of language, and reading in modern Macedonian.

Rules & Requirements
Grading Status: Letter grade.
Global Language: Level 1.

MACD 402. Elementary Macedonian. 3 Credits.
Pronunciation, structure of language, and reading in modern Macedonian, continued.

Rules & Requirements
Grading Status: Letter grade.
Global Language: Level 2.

MACD 403. Intermediate Macedonian. 3 Credits.
Continuation of the proficiency-based instruction begun in Elementary Macedonian.

Rules & Requirements

IDEAs in Action Gen Ed: GLBL-LANG.
Grading Status: Letter grade.
Global Language: Level 3.

MACD 404. Intermediate Macedonian. 3 Credits.
Continuation of the proficiency-based instruction begun in Elementary Macedonian, continued.

Rules & Requirements
Grading Status: Letter grade.
Global Language: Level 4.

MACD 405. Advanced Macedonian. 3 Credits.
Advanced reading and discussion in Macedonian in humanities and social science topics.

Rules & Requirements
Grading Status: Letter grade.
Global Language: Level 5.

MACD 406. Advanced Macedonian. 3 Credits.
Advanced reading and discussion in Macedonian in humanities and social science topics, continued.

Rules & Requirements
Grading Status: Letter grade.
Global Language: Level 6.

Polish (PLSH)

Advanced Undergraduate and Graduate-level Courses

PLSH 401. Elementary Polish I. 3 Credits.
Proficiency-based instruction at the elementary level that develops the four language skills (speaking, listening, reading, writing). In addition to mastering basic vocabulary and grammar, students will communicate in Polish about everyday topics.

Rules & Requirements
Grading Status: Letter grade.
Global Language: Level 1.

PLSH 402. Elementary Polish II. 3 Credits.
Continuation of the proficiency-based instruction in PLSH 401. Course emphasizes speaking, listening, reading, writing in a cultural context. Students enhance their basic vocabulary and grammar and will regularly communicate in Polish about everyday topics.

Rules & Requirements
Requisites: Prerequisite, PLSH 401; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Global Language: Level 2.

PLSH 403. Intermediate Polish I. 3 Credits.
Continuation of the proficiency-based instruction begun in elementary Polish.

Rules & Requirements

IDEAs in Action Gen Ed: GLBL-LANG.
Requisites: Prerequisite, PLSH 402; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Global Language: Level 3.

PLSH 404. Intermediate Polish II. 3 Credits.
Continuation of the proficiency-based instruction begun in elementary Polish, continued.

Rules & Requirements
Requisites: Prerequisite, PLSH 403; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Global Language: Level 4.

PLSH 405. Advanced Polish I. 3 Credits.
Advanced readings and discussion in Polish on humanities and social science topics.

Rules & Requirements
Requisites: Prerequisite, PLSH 404; permission of Instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Global Language: Level 5.

PLSH 406. Advanced Polish II. 3 Credits.
Advanced readings and discussion in Polish on humanities and social science topics, continued.

Rules & Requirements
Requisites: Prerequisite, PLSH 405; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Global Language: Level 6.

PLSH 411. 19th-Century Polish Literature and Culture. 3 Credits.
An overview of the major literary, cultural and social movements in 19th-century Poland (Romanticism, Positivism and Young Poland) as they relate to Europe more broadly. All readings and discussions in English; readings available in Polish for qualified students.

Rules & Requirements
Grading Status: Letter grade.

PLSH 412. From Communism to Capitalism: 20th- and 21st-Century Polish Literature and Culture. 3 Credits.
An overview of the literary and cultural movements in 20th and 21st century Poland as they relate to major historical changes of the century (World War I and World War II, Communism, Post-communism, accession to the European Union). All readings and discussions in English; readings available in Polish for qualified students.

Rules & Requirements
Grading Status: Letter grade.
Same as: JWST 412.

PLSH 490. Topics in Polish Culture. 3 Credits.
Study of topics in Polish literature and culture not currently covered in any other course. The specific topic will be announced in advance. Taught in English. Some readings in Polish for qualified students.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

Bosnian-Croatian-Serbian (BCS)

Advanced Undergraduate and Graduate-level Courses

BCS 401. Elementary Bosnian-Croatian-Serbian Language I. 3 Credits.
This course is designed for new learners and heritage speakers of BCS who wish to develop elementary proficiency in four major language competencies: listening, speaking, reading, and writing. It introduces key linguistic and sociocultural aspects of contemporary BCS and will be a valuable asset to students looking to reconnect with their family heritage, visit the region or simply get acquainted with this major Slavic language and its history.

Rules & Requirements
Grading Status: Letter grade.
Global Language: Level 1.

BCS 402. Elementary Bosnian-Croatian-Serbian Language II. 3 Credits.
Continuation of the proficiency-based instruction in BCS 401. Course emphasizes speaking, listening, reading, writing in a cultural context. Students enhance their basic vocabulary and grammar and will regularly communicate in the target language about everyday topics. Previously offered as SECR 402.

Rules & Requirements
Requisites: Prerequisite, BCS 401; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Global Language: Level 2.

BCS 403. Intermediate Bosnian-Croatian-Serbian Language I. 3 Credits.
The second year of BCS instruction will continue to build grammar and communication skills for intermediate-low and heritage speakers. We will revisit and review many of the grammar concepts from the previous year while gradually incorporating new vocabulary and developing cultural competencies through a variety of authentic sources in the target language (comics, films, music, and others). In addition to in-class presentations, students will frequently work in pairs and collaborate on small projects.

Rules & Requirements
IDEAs in Action Gen Ed: GLBL-LANG.
Requisites: Prerequisite, BCS 402; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Global Language: Level 3.

BCS 404. Intermediate Bosnian-Croatian-Serbian Language II. 3 Credits.
Continuation of the proficiency-based instruction started in BCS 403. Previously offered as SECR 404.

Rules & Requirements
Requisites: Prerequisite, BCS 403; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Global Language: Level 4.

BCS 405. Advanced Bosnian-Croatian-Serbian Language I. 3 Credits.
Advanced readings and discussion in Bosnian-Croatian-Serbian on humanities and social science topics. Previously offered as SECR 405.

Rules & Requirements
Requisites: Prerequisite, BCS 404; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Global Language: Level 5.

BCS 406. Advanced Bosnian-Croatian-Serbian Language II. 3 Credits.
Advanced readings and discussion in Bosnian-Croatian-Serbian on humanities and social science topics. Continuation of BCS 405. Previously offered as SECR 406.

Rules & Requirements
Requisites: Prerequisite, BCS 405; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Global Language: Level 6.

BCS 411. Introduction to South Slavic Literatures and Cultures. 3 Credits.
Introduction to South Slavic literatures and cultures with an emphasis on 19th- through 21st-century prose. Taught in English. Some readings in target language for qualified students. Previously offered as SECR 411.

Rules & Requirements
Grading Status: Letter grade.

BCS 490. Topics in South Slavic Cultures. 3 Credits.
Study of topics in Bosnian, Croatian, Serbian, and other South Slavic literatures and cultures not currently covered in any other course. The specific topic will be announced in advance. Taught in English. Some readings in target language for qualified students. Previously offered as SECR 490.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

Contact Information

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CURRICULUM IN GLOBAL STUDIES (GRAD)

The master of arts (M.A.) in global studies is a two-year interdisciplinary "applied research" degree that combines scholarly rigor and practical skills. Students enrolled in the program will focus on analysis of transregional and transnational themes, events, and processes that affect states and societies around the world, such as transnational social movements; the diffusion of, and clashes over, political and social norms; and the implications of global trade, investment, production, and employment patterns. The program's courses focus on issues with contemporary global significance and policy relevance. Global studies is an emerging discipline, and UNC–Chapel Hill is at the forefront of defining the field and evolving methodological approaches.

The educational objectives of the program are to:

- Highlight issues of current and emerging global significance;
- Prepare current and future leaders with knowledge and analytical skills needed for careers in international work; and
- Provide an education that trains individuals to understand and respond to the nature of global change.

Students specialize in one of four concentrations: Global Politics, Global Economics, Global Migration, or Russian, Eurasian, and East European Studies (REEES).

Stay up to date on all things UNC Global Studies by following us on Instagram: @uncglobalstudies

Requirements for the Thematic Concentrations of the Global Studies M.A. Degree

The Curriculum in Global Studies offers graduate work for the degree of master of arts (M.A.) in global studies. Students pursue a concentration in one of the following three thematic areas: global politics, institutions, and societies; global economy; or global migration and labor rights. A concentration in Russian, East European, and Eurasian Studies (REEES) is also available, but it has distinct degree requirements (see below).

To earn one of the three thematic concentrations in the global studies M.A., the student must fulfill the following curriculum requirements:

Code	Title	Hours
GLBL 700	Introduction to Research and Theory in Global Studies	3
GLBL 701	Political Economy of Development	3
GLBL 702	Global Politics, Institutions, and Societies	3
GLBL 703	Global Migration and Labor Rights	3
One methods course (approved by the Director of Graduate Studies)		3
GLBL 992	Master's (Non-Thesis) (Writing Credits (3 hours each semester in your second year in program))	6
At least five elective courses in a concentration determined in consultation with the director of graduate studies		15
Completion and defense of capstone project		
Total Hours		**36**

Further information concerning the Global Studies M.A. Program may be obtained on the program's website (http://globalstudies.unc.edu/masters/) or from Dr. Erica Johnson (ericaj@email.unc.edu), Director of Graduate Studies, at Telephone: (919) 962-0663; Email: ericaj@email.unc.edu.

Requirements for the REEES Concentration in the Global Studies M.A. Degree

The Global Studies M.A. Program also offers a concentration in Russian, East European, and Eurasian Studies (REEES). To earn the global studies M.A. with the REEES concentration, the student must fulfill the following requirements:

Code	Title	Hours
Four semester courses in a regionally appropriate language (Czech, Polish, Russian, Serbo-Croatian, Ukrainian, or Turkish)		12
HIST 783	Introduction to Russian, Eurasian, and East European History	3
GLBL 700	Introduction to Research and Theory in Global Studies	3
GLBL 730	Identities and Transitions	3
GLBL 993	Master's Research and Thesis ((3 hours each semester in your second year in program))	6
Elective credits		9
Completion and defense of a thesis		
Total Hours		**36**

Further information on the REEES concentration in the Global Studies M.A. Program may be obtained on the program's website (http://globalstudies.unc.edu/masters/) or from Dr. Erica Johnson (ericaj@email.unc.edu), Director of Graduate Studies, at Telephone: (919) 962-0663; Email: ericaj@email.unc.edu.

Professors

Inger S B Brodey, English and Comparative Literature
Chad Bryant, History
Renée Alexander Craft, Communication
Mark Driscoll, Asian Studies
Banu Gökariksel, Geography
Liesbet Hooghe, Political Science
Arne Kalleberg, Sociology
Elizabeth Olson, Geography
John Pickles, Geography
Graeme Robertson, Political Science
Meenu Tewari, City and Regional Planning
Milada A. Vachudova, Political Science

Associate Professors

Andrea F. Bohlman, Music
Stephanie DeGooyer, English and Comparative Literature
Lucy Martin, Political Science
Nina Martin, Geography
Townsend Middleton, Anthropology
Michael Morgan, History
Christopher Nelson, Anthropology
Eunice Sahle, African, African American, and Diaspora Studies
Mark Sorensen, Anthropology

Angela Stuesse, Anthropology
Michael Tsin, History

Adjunct Assistant Professors

Hannah Gill, Institute for the Study of the Americas
Niklaus Steiner, Political Science

Teaching Professors

Erica Johnson, Global Studies
Michal Osterweil, Global Studies
Jonathan Weiler, Global Studies

Teaching Assistant Professor

Carmen Huerta-Bapat, Global Studies

GLBL

Advanced Undergraduate and Graduate-level Courses

GLBL 401. Right Wing Populism in Global Perspective. 3 Credits.
This course will examine right wing populism globally. We will consider why right wing populism has gained traction in such diverse places as India, Brazil, Germany, France, Hungary, Britain, and the United States. We will ask what role such factors as religion, ethnicity, economics, and gender play in its rise. Honors version available.

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL or FC-POWER.
Grading Status: Letter grade.

GLBL 413. Socialist and Decolonial Ecologies. 3 Credits.
This course will focus on the relation of capitalism and anthropogenic climate change and feature Marxist and Indigenous critiques of capitalism's responsibility for climate change. We will feature an interdisciplinary lens - philosophy, feminist geography, cultural anthropology, socialist economics - that will analyze how the anthropocentric subject of the Enlightenment separated itself from its natural environment.

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL.
Requisites: Prerequisite, GLBL 210.
Grading Status: Letter grade.

GLBL 415. Dealing with Difference: Criminal Justice, Race, and Social Movements in Globalization. 3 Credits.
This course is dedicated to understanding how sameness and difference are used and contested globally, in particular through the criminal justice system and its intersection with race and capitalism. The course pays particular attention to popular social movement responses, and what they say to theories of difference, globalization, and social change. Honors version available.

Rules & Requirements
Grading Status: Letter grade.

GLBL 435. Love and Liberation: Spirituality and Social Change, a Global Perspective. 3 Credits.
Recommended preparation, GLBL 210. This course seeks to explore the intersections of love and freedom and will toggle between the ways in which these ideas are used by activist groups and the spiritual/religious perspectives themselves. There will be a particular emphasis on coming to understand how diverse religious/spiritual perspectives address key problematics or issues such as hierarchy, difference, power, oppression, equality, money, and liberation. Honors version available.

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING.
Grading Status: Letter grade.

GLBL 450. Social Change in Times of Crisis: Knowledge, Action, and Ontology. 3 Credits.
Examines dominant, alternative, and emergent narratives of change and the future from around the world. Takes as a premise that we live in a period of multidimensional crises characterized by uncertainty and conflict about how to pursue sustainable economic, ecological, political, social, and cultural projects. Honors version available.

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING or FC-POWER.
Grading Status: Letter grade.

GLBL 481. NGO Politics. 3 Credits.
This course will investigate how nongovernmental organizations emerge, how they structure their organizations, how they function, and how they influence public policy. Honors version available.

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL.
Grading Status: Letter grade.

GLBL 482. Soviet and Post-Soviet Politics and Institutions. 3 Credits.
This course is an introduction to the history and contemporary politics of the post-Soviet region and explores topics of religious, ethnic, and identity politics; international influences; and civil society and social movements. Honors version available.

Rules & Requirements
Grading Status: Letter grade.

GLBL 483. Comparative Health Systems. 3 Credits.
This course provides students with an understanding of the origins and comparative performance of a range of international healthcare systems. Honors version available.

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL.
Grading Status: Letter grade.

GLBL 484. History and Politics of Central Asia. 3 Credits.
This course is an introduction of the history, politics, and societies of Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan. The class explores the foundations and conditions of change in the modern history of these societies and investigates how these issues influence contemporary politics.

Rules & Requirements
Grading Status: Letter grade.

GLBL 485. Comparative Development. 3 Credits.
This course is an APPLES service-learning course whose goal is to integrate real-world experience working with development-oriented organizations, theoretical discussions about the origins and evolution of development thinking, and exposure to the challenges facing practitioners of development, in some of its many substantive and geographical contexts.

Rules & Requirements

IDEAs in Action Gen Ed: HI-SERVICE.
Grading Status: Letter grade.

GLBL 486. Sports and Globalization. 3 Credits.
This course explores some of the relationships between sports and globalization and will delve into sports as an important social and cultural practice within larger social, cultural, and political forces shaping studies of globalization. Honors version available.

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL.
Grading Status: Letter grade.

GLBL 487. Social Movements: Rethinking Globalization. 3 Credits.
This course explores the history, objectives, and manifestations of global social movements. Honors version available.

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL or FC-POWER.
Grading Status: Letter grade.

GLBL 489. Paradigms of Development and Social Change. 3 Credits.
By deliberately juxtaposing questions of global development with an investigation of approaches in community organizing locally--both through course material and service-learning assignments--the course encourages students to develop a more critical understanding of the relationship between development projects and emancipatory frameworks. Honors version available.

Rules & Requirements

IDEAs in Action Gen Ed: FC-POWER, HI-SERVICE.
Grading Status: Letter grade.

GLBL 490. Current Topics. 3 Credits.
Current topics in international and area studies. Topics vary by semester.

Rules & Requirements
Grading Status: Letter grade.

GLBL 491H. Major Controversies in Human Rights. 3 Credits.
A forum for exploring conceptual and practical problems related to the emergence of a global human rights regime after World War II. The course analyzes relevant arguments, and students will consider whether it is possible to construct a coherent, workable, universally accepted system for articulating and enforcing human rights norms.

Rules & Requirements
Grading Status: Letter grade.

GLBL 492. Global Food Films. 3 Credits.
Thinking about one of our most basic human needs illuminates aspects of our own everyday lives, such as our relationship to nature, other cultures, and to history, as well as our general assumptions about humanity. Students will study films that explore cross-cultural differences in the social and philosophical understandings of what it is to be human. Honors version available.

Rules & Requirements
Grading Status: Letter grade.

GLBL 574. Political Economy of Poverty and Inequality. 3 Credits.
Introduces students to the political economy of poverty alleviation programs. Uses comparative cases to explore what types of projects, tasks, and environments lead to effective and equitable outcomes, and why.

Rules & Requirements
Grading Status: Letter grade.
Same as: PLAN 574.

GLBL 691H. Honors in Global Studies. 3 Credits.
Permission of the instructor. Preparation for writing the honors thesis.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

GLBL 692H. Honors in Global Studies. 3 Credits.
Permission of the instructor. Completion of the honors thesis and an oral examination of the thesis.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

Graduate-level Courses

GLBL 700. Introduction to Research and Theory in Global Studies. 3 Credits.
Global studies examines world systems, transnational processes, and global-local interactions from a multi-disciplinary perspective. This course will introduce students to current interdisciplinary theoretical approaches to global studies and examine the primary topics of contemporary research relating to the rise of a complex but increasingly integrated world society.

Rules & Requirements
Grading Status: Letter grade.

GLBL 701. Political Economy of Development. 3 Credits.
Presents foundational theories, concepts, and empirical research regarding the political economy of development. In content, course will define this topic broadly, from considering the political and economic dynamics of the international community (e.g., aid) as well as the intersection of economics and politics in comparative perspective (e.g., democratization and development).

Rules & Requirements
Grading Status: Letter grade.

GLBL 702. Global Politics, Institutions, and Societies. 3 Credits.
This course will address global governance and global public policy; interactions among states, international organizations, businesses, social movements, and NGOs. It addresses the diffusion and promotion of democracy and other norms and the interactions between political institutions and social cleavages. Students with this concentration must take one appropriate methodology class.

Rules & Requirements
Grading Status: Letter grade.

GLBL 703. Global Migration and Labor Rights. 3 Credits.
The course will focus on the interactions of migration, labor rights, human rights, economics, health disparities, and cross-border tensions. Students with this concentration will also take at least one appropriate disciplinary methodology class.

Rules & Requirements
Grading Status: Letter grade.

GLBL 709. The Theory and Practice of Conflict Transformation. 3 Credits.
This course focuses on several mechanisms and strategies for managing and transforming conflict on international, community, and interpersonal levels. We will discuss, in particular, the theory and practice of restorative justice, negotiation, conflict transformation in the digital age, decolonization, and facilitating dialogue and engage in practical exercises in managing conflicts.

Rules & Requirements
Grading Status: Letter grade.

GLBL 710. Monitoring and Evaluation for Peacebuilding Interventions. 2 Credits.
This introductory course offers a review of the core concepts, skills and practical steps in monitoring and evaluation of coexistence and peacebuilding interventions. The course will stress participatory methods in monitoring and evaluation, in which multiple stakeholders are involved in the process of planning, collecting, interpreting, synthesizing, and using information. The course will feature case studies, proposals, and organizational evaluation plans and reports.

Rules & Requirements
Grading Status: Letter grade.

GLBL 730. Identities and Transitions. 3 Credits.
Capstone course for the REEES concentration in the Global Studies MA program. Interdisciplinary course focusing on the variety of problems encountered by the societies of East European countries and successor states of the former Soviet Union in their transition from communism to democracy.

Rules & Requirements
Grading Status: Letter grade.
Same as: POLI 746.

GLBL 750. Quantitative and Qualitative Methods for Social Sciences and Policy Research. 3 Credits.
This course presents an introduction to qualitative and quantitative research methods. It addresses the theoretical, ethical, and practical aspects of conducting research in local and global contexts. Students will learn how to collect and analyze empirical information from multiple sources such as interviews, focus groups, written records, and surveys. Students will develop the skills necessary to understand and critique the methods of evaluation in others' work.

Rules & Requirements
Grading Status: Letter grade.
Same as: PLCY 750.

GLBL 890. Special Topics in Global Studies. 1-3 Credits.
Instructors and topics vary from semester to semester.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 9 total credits. 3 total completions.
Grading Status: Letter grade.

GLBL 893. Global Studies Internship and Field Experience. 1-9 Credits.
Students may earn academic credit toward degree requirements for completion of an internship or other field experience. Internship and work load must be approved by the Director of Graduate Studies. Specific guidelines must be followed earn academic credit.

Rules & Requirements
Grading Status: Letter grade.

GLBL 896. Independent Reading and Research. 3 Credits.
Permission of the instructor. Reading and research on special topics in global studies.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 6 total credits. 2 total completions.
Grading Status: Letter grade.

GLBL 992. Master's (Non-Thesis). 3 Credits.
Master's thesis substitute paper; permission of the instructor required.

Rules & Requirements
Repeat Rules: May be repeated for credit.

GLBL 993. Master's Research and Thesis. 3-6 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

Contact Information

Curriculum in Global Studies
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Chair
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SCHOOL OF GOVERNMENT (GRAD)

The UNC master of public administration (M.P.A.) program offers a nationally ranked leadership degree for on campus and online students. Our graduates are public service leaders who transform the communities where they work and live.

UNC M.P.A. is housed within the School of Government, which is the nation's largest university-based training, advisory, and research organization for public officials. Our M.P.A. students work directly with expert faculty who are also guiding, educating, and consulting with local and state officials throughout North Carolina and beyond on a daily basis. Our faculty bring their work with public officials back into the classroom, where students gain experience grappling with many of the same complex and interdisciplinary challenges they will face in their public service careers.

To learn more about our top-ranked, flexible public service leadership degree, please see the program website.

Admission Requirements

All M.P.A. admission requirements can be found on the program website (https://mpa.unc.edu/).

Public Administration, Master's Program (M.P.A.)

Course Requirements

Coursework and requirements for the M.P.A. degree include a minimum of 45 semester hours of credit, a practicum, an applied research problem, and a final oral examination. These requirements are designed to ensure that each graduate possesses the core set of competencies that supports the M.P.A. program's mission of preparing public service leaders.

Code	Title	Hours
Core Courses		
PUBA 709	Foundations of Public Administration	3
PUBA 710	Organization Theory	3
PUBA 711	Public Service Leadership	3
PUBA 719	Public Administration Analysis and Evaluation I	3
PUBA 720	Public Administration Analysis and Evaluation II	3
PUBA 721	Professional Communications	3
PUBA 723	Human Resource Management	3
PUBA 731	Public Budgeting and Finance	3
PUBA 760	Law for Public Administration	3
Electives		
Select elective courses from the following options:		15
15 hours of PUBA courses numbered 700 or higher		
Electives may include 9+ hours from an optional concentration (see lists below)		
Thesis/Substitute or Dissertation		
PUBA 747	Applied Research Problem I	1.5
PUBA 748	Applied Research Problem II	1.5
Minimum Hours		**45**

Local Government Concentration

Code	Title	Hours
PUBA 751	Local Government Management [1]	3
or PUBA 738	Managing Local Government Services	
Select additional courses from the following list to meet the minimum credit hours requirement for a concentration:		6
PUBA 730	Governmental and Not-for-Profit Accounting and Reporting	
PUBA 752	Productivity Improvement	
PUBA 753	Performance Management in Local Government	
PUBA 765	Capital Budgeting and Finance	
Minimum Hours		**9**

[1] It is highly recommended that students take both PUBA 751 and PUBA 738 as part of the concentration. When both courses are taken, students would complete three additional credit hours from the list of additional courses.

Nonprofit Management Concentration

Code	Title	Hours
Select courses from the following list to meet the minimum credit hours requirement for this concentration:		
PUBA 730	Governmental and Not-for-Profit Accounting and Reporting	3
PUBA 756	Nonprofit Management	3
PUBA 757	Financial Management of Nonprofit Organizations	3
PUBA 758	Navigating Nonprofit Local Government	3
PUBA 763	Grant Writing and Evaluation	1.5
PUBA 764	Grant Writing	3
PUBA 766	Boards and Governance for Nonprofit Organizations	1.5
PUBA 767	Nonprofit Sector Systems Thinking and Collaboration	1.5

Public Management Concentration

Code	Title	Hours
Select courses from the following list to meet the minimum credit hours requirement for this concentration:		
PUBA 739	Intergovernmental Relations	1.5
PUBA 740	Decision Analysis	3
PUBA 744	MPA Immersion	1.5
PUBA 768	Mediation Skills for Public Organizations	1.5
PUBA 769	Facilitation Skills for Public Sector Managers	1.5
PUBA 772	Mediation Skills for Public Managers	3
PUBA 778	Strategic Information Technology Management	3
PUBA 787	Applied Environmental Finance: How to Pay for Environmental Services	3

Community and Economic Development

Code	Title	Hours
Select courses from the following list to meet the minimum credit hours requirement for this concentration:		
PUBA 734	Community Development & Revitalization Techniques	4.5

PUBA 735	Community Revitalization Applied	4.5
PUBA 771	Managing Economic Development	3

Milestones

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 27) for more information.

- Master's Committee
- Master's Professional Work Experience (PWE)
- Master's Oral Exam
- Thesis Substitute
- Residence Credit
- Exit Survey

Recommended Checklist

- Academic Course Planner — Students are requested to meet with the associate director of academic advising and student life in order to develop a curriculum plan tailored to individual needs.
- Professional Development Plan — Students are requested to meet with the associate director of career services and professional development to understand what opportunities would allow them to apply theory to practice, build skills, develop relationship, and understand more about professional organizations.

Professors

Whitney Afonso, Albert and Gladys Coates Term Professorship of Public Administration and Government
Maureen M. Berner, Public Administration and Government
Anita Brown-Graham, Gladys Hall Coates Distinguished Professor of Public Law and Government, Director, ncIMPACT Initiative
Leisha Dehart-Davis, Professor of Public Administration and Government
Shea R. Denning, James E. Holshouser Distinguished Professor of Public Law and Government, Director, North Carolina Judicial College
Sara DePasquale, Professor of Public Law and Government
Cheryl D. Howell, Albert Coates Professor of Public Law and Government
Willow S. Jacobson, Robert W. Bradshaw Jr. Distinguished Professor of Public Administration and Government and Director, UNC M.P.A. Program, Associate Dean of Graduate Studies
Robert P. Joyce, Charles Edwin Hinsdale Professor of Public Law and Government
Diane M. Juffras, Albert and Gladys Hall Coates Distinguished Term Professor of Public Law and Government
Adam S. Lovelady, Albert and Gladys Coates Distinguished Professorships Public Law and Government
James Markham, Professor of Public Law and Government
Christopher B. McLaughlin, Albert and Gladys Hall Coates Distinguished Term for Teaching Excellence, Professor of Public Law and Government
Kara Millonzi, Robert W. Bradshaw Jr. Distinguished Professor of Public Law and Government
Jonathan Q. Morgan, Public Administration and Government
Ricardo S. Morse, Public Administration and Government; Director, LGFCU Fellows Program
Christopher Tyler Mulligan, David M Lawrence Distinguished Professor of Public Law and Government, and Director, Development Finance Initiative
Kimberly L. Nelson, Albert and Gladys Coates Distinguished Professorships Public Administration and Government
William C. Rivenbark, James E. Holshouser Distinguished Professor of Public Administration and Government
John Rubin, Albert Coates Professor of Public Law and Government
Michael R. Smith, Dean Emeritus
Carl W. Stenberg III, James E. Holshouser Jr. Distinguished Professor of Public Administration and Government
Charles Szypszak, Albert Coates Distinguished Professor of Public Law and Government
Shannon H. Tufts, Public Law and Government; Director, Center for Public Technology Aimee N. Wall, Dean
Jeff Welty, Public Law and Government

Associate Professors

Mark F. Botts, Public Law and Government
Jacquelyn Green, Public Law and Government
Jill D. Moore, Public Law and Government
Obed Pasha, Public Management; Director, North Carolina Benchmarking Project
Meredith Smith, Public Law and Government
John B. Stephens, Public Administration and Government

Assistant Professors

Julie Beasley, Public Administration and Government
Brittany Bromell, Public Law and Government
Kimalee Dickerson, Public Leadership
Belal Elrahal, Public Law and Government
Rebecca Fisher-Gabbard, Public Law and Government
Joseph Hyde, Criminal Law and Procedure
Colt Jenson, Public Administration and Government
James Joyce, Public Law and Government
Joseph Laizure, Public Law and Government
Kristen Leloudis, Public Health Law
Kristi Nickodem, Robert W. Bradshaw Jr. Distinguished Term Assistant Professor of Public Law and Government
Danny Spiegel, Public Law and Government
Elliot Stoller, Leadership and Governance
Teshanee Williams, Public Administration and Government
Kristina Wilson, Albert and Gladys Coates Term Professor of Public Law and Government

Professor of the Practice

Ivy Taylor, Professor of the Practice

Teaching Professor

Gregory S. Allison, Albert and Gladys Hall Coates Distinguished Term Teaching Professor; Secretary, School of Government Foundation Board of Directors

Teaching Associate Professors

Kirk Boone, Public Finance and Government
Phillip Dixon, Public Law and Government; Director, Public Defense Education

Teaching Assistant Professors

Rebecca Badgett, Public Law and Government
Melanie Crenshaw, Albert and Gladys Coates Term Teaching Assistant Professor of Law and Government Civil Law for Magistrates

Crista Cuccara, Public Law and Government
Timothy Heinle, Albert and Gladys Coates Term Teaching Assistant Professor of Law and Government
Amy Wade, Albert and Gladys Coates Term Professorship of Public Administration and Government

Adjunct and Visiting Faculty

Aida Aliyeva
Monica Allen
Evans Ballard
Justin Barbaree
Blossom Barrett
Alexandra Bartz
Julie M. Brenman
Kristen Brugh
Audrea Caesar
Christopher Cody
John Crumpton
Ana-Laura Diaz
Sharon Edmundson
Tara Lynne Fikes
Jennifer Heckscher
Mary Hemphill
Evan Johnson
Katie Loovis
Emily McCartha
Tracy Miles
Kelley O'Brien
John Quinterno
James Robinson
Dale Roenigk
G. Dylan Russell
Amy Strecker
Austin Thompson-Spain
Sarah Towne
Joy Wilkins

GOVT

GOVT 660. Municipal Administration. 4 Credits.
This course covers municipal government organization and management, finance, personnel, planning and economic development, and the administration of specific municipal functions.

Rules & Requirements
Grading Status: Letter grade.

GOVT 661. County Administration. 4 Credits.
This course covers county government organization and management, finance, personnel, planning, and economic development, and the administration of specific municipal functions.

Rules & Requirements
Grading Status: Letter grade.

GOVT 664. Chief Information Office Certification Program. 5 Credits.
The CIO Certification Program is designed for chief information officers of local governments in North Carolina. The course lays the foundation for addressing the most critical issues facing IT leadership in local government and equips leaders with tools to manage and improve their organizational assets.

Rules & Requirements
Grading Status: Letter grade.

PUBA

Advanced Undergraduate and Graduate-level Courses

PUBA 401. State and Local Governance. 3 Credits.
Introduction to local/state public service, including: governmental institutions; ethics and public values; and core functions of administrative governance. Discussions led by MPA faculty with practicing public and nonprofit administrators.

Rules & Requirements

IDEAs in Action Gen Ed: HI-SERVICE.
Grading Status: Letter grade.

PUBA 402. Promoting Change through the Nonprofit Sector. 1 Credits.
Selected students have the opportunity to build on their experience of grant making to learn more about the nonprofit and philanthropic sectors. Students will follow up with the agencies receiving grants from the spring class and ensure completion of the activities required by the agreements through a reporting and site visit process.

Rules & Requirements
Requisites: Prerequisite, HBEH 611.
Grading Status: Pass/Fail.

PUBA 635. Military Leadership and Public Service. 1.5-3 Credits.
Leadership as taught and demonstrated in the military and how it translates to leadership in public service, including the interrelationship of the military and other public service and the transition of veterans to civilian leadership roles.

Rules & Requirements
Grading Status: Letter grade.
Same as: PWAD 635.

Graduate-level Courses

PUBA 709. Foundations of Public Administration. 3 Credits.
This course gives students a working knowledge of the multi-disciplinary approach to governance as embraced by the theories of public administration. The course will include discussions on public management, values, organizational theory, and politics, among other topics. It will review the history and development of public administration, delve into the theories that are integral to the discipline, and review practical approaches to the application of these theories.

Rules & Requirements
Grading Status: Letter grade.

PUBA 710. Organization Theory. 3 Credits.
Provides a conceptual and experiential grounding in theories of management and organizational operation. Students learn how to analyze organizations and their environments from multiple perspectives. Students systematically examine important dimensions of organizational life: what motivates people, how decisions are made, challenges of diversity, conflict, and power dynamics.

Rules & Requirements
Grading Status: Letter grade.

PUBA 711. Public Service Leadership. 3 Credits.
Students learn about their leadership style and values, as well as strengths and weaknesses, with regard to public leadership at the personal, interpersonal, organizational, and community levels. Readings, assignments, and class activities focus on developing knowledge and skills necessary to lead successfully in public service settings.

Rules & Requirements
Requisites: Prerequisites, PUBA 709, PUBA 710, PUBA 719, PUBA 720, PUBA 721, and one of the following three course options PUBA 723, PUBA 731, or PUBA 760.
Grading Status: Letter grade.

PUBA 719. Public Administration Analysis and Evaluation I. 3 Credits.
First course in a two-course sequence introducing students to applied research design, data collection, data management, data analysis, and analytical reporting to allow them to conduct original research, be informed consumers of other research, and ultimately improve public program planning and evaluation decisions.

Rules & Requirements
Grading Status: Letter grade.

PUBA 720. Public Administration Analysis and Evaluation II. 3 Credits.
Second course in a two-course sequence introducing students to applied research design, data collection, data management, data analysis, and analytical reporting to allow students to conduct original research, be informed consumers of other research, and ultimately improve public program planning and evaluation decisions.

Rules & Requirements
Requisites: Prerequisite, PUBA 719.
Grading Status: Letter grade.
Same as: POLI 725.

PUBA 721. Professional Communications. 3 Credits.
Prepares students to communicate clearly and effectively as public service leaders, which includes reading, listening, and thinking critically; writing and speaking clearly, concisely, and unambiguously; giving organized and convincing oral presentations; and using appropriate tools and tone in preparing oral and written communications for diverse audiences.

Rules & Requirements
Grading Status: Letter grade.

PUBA 723. Human Resource Management. 3 Credits.
Students gain knowledge of the behaviors and practices of human resource management, as well as an overview of diversity and inclusion in public sector work-forces. Class learning is both theoretical and experiential.

Rules & Requirements
Grading Status: Letter grade.

PUBA 730. Governmental and Not-for-Profit Accounting and Reporting. 3 Credits.
Teaches the principles of accounting and financial reporting in governmental and not-for-profit environment. Provides skills for analyzing the financial condition of governments and the efficiency and effectiveness of governmental programs.

Rules & Requirements
Grading Status: Letter grade.

PUBA 731. Public Budgeting and Finance. 3 Credits.
Introduces students to the historical foundations, institutions, and basic principles of public budgeting and finance. The course covers the fundamental areas of public financial management, including the operating and capital budgeting processes used to obtain and allocate public resources, decision making in the budgeting process, and the criteria used to evaluate revenues.

Rules & Requirements
Grading Status: Letter grade.

PUBA 734. Community Development & Revitalization Techniques. 4.5 Credits.
Community revitalization requires mastery of community development methods, the real estate development process, and public-private partnerships. Techniques include demographic trend analysis, stakeholder identification, government entitlement review, area and parcel analysis, market research, and pro forma financial analysis.

Rules & Requirements
Repeat Rules: May be repeated for credit. 9 total credits. 2 total completions.
Grading Status: Letter grade.
Same as: PLAN 764.

PUBA 735. Community Revitalization Applied. 4.5 Credits.
Students apply their skills in business, planning, or public administration to actual community revitalization projects in North Carolina communities. Projects require an understanding of community development methods, the real estate development process, and public-private partnerships. Students will manage client relationships and learn how their skills contribute to solving community challenges. This course is ideal for first year graduate students.

Rules & Requirements
Repeat Rules: May be repeated for credit. 9 total credits. 2 total completions.
Grading Status: Letter grade.
Same as: PLAN 735.

PUBA 736. Advanced Budgeting & Financial Analysis. 1.5 Credits.
The purpose of the course is to assist students with further development of their skills, approaches, and philosophies in the functional areas of public budgeting and financial management. Requires students to analyze case situations in public organizations, identify possible solutions in response to their analysis, and justify final recommendations.

Rules & Requirements
Grading Status: Letter grade.

PUBA 738. Managing Local Government Services. 3 Credits.
Students learn about the operations functions of local government. Each class will focus on a single local government department. Students will understand techniques and tools used to manage local governments effectively, efficiently, and equitably. Students learn the current issues, management trends, and problems associated with each local government department function.

Rules & Requirements
Grading Status: Letter grade.

PUBA 739. Intergovernmental Relations. 1.5 Credits.
This course is designed to enhance the practical skills of future public administration practitioners in navigating our complex intergovernmental system and supporting elected officials and others in influencing the outcome of public policy issues, consistent with professional ethics guidance.

Rules & Requirements
Grading Status: Letter grade.

PUBA 740. Modeling for Decision Analysis. 3 Credits.
Course will provide introduction to a process for systematically thinking about decisions and valuable techniques for analyzing decisions. Students will learn how to construct models for decision making and how to use these models to analyze decisions.

Rules & Requirements
Grading Status: Letter grade.

PUBA 742. Data Visualization. 1.5 Credits.
This skills-based, half-semester course familiarizes professional program graduate students with insights into effective data communication, exposes them to a communication framework, and allows them to hone new skills through the completion of various assignments. Covered topics include developing clear messages, designing effective graphs and tables, formatting written documents, and creating multimedia presentations. While new tools and techniques feature in this course, the overarching goal is a timeless one: the sharing of ideas.

Rules & Requirements
Grading Status: Letter grade.

PUBA 744. MPA Immersion. 1.5 Credits.
How do concepts learned in the classroom translate into real-world practice? The Carolina MPA Immersion Experience offers both online and on-campus students the opportunity to make this connection and learn from MPA faculty with expertise in government and non-profit administration. Held at the UNC School of Government, the course allows students and faculty to come together for three days to focus on a relevant topic in the field of public administration.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 1 total credits. 5 total completions.
Grading Status: Letter grade.

PUBA 745. Professional Work Experience. 1.5 Credits.
Additionally, students will have to have completed the Professional Work Experience Practicum prior to enrolling in this course. The M.P.A. professional work experience consists of 10 weeks of full-time employment in a public agency or nonprofit organization. This course requires students to demonstrate and extend this learning experience within the context of public service leadership and management.

Rules & Requirements
Requisites: Prerequisites, PUBA 709, PUBA 710, PUBA 719, PUBA 720, PUBA 721, and one additional core course from the following: PUBA 723, PUBA 731, or PUBA 760.
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PUBA 746. M.P.A. Portfolio. 1.5 Credits.
The purpose of the portfolio is for students to demonstrate and further develop their public service leadership potential through a collection of academic and professional products. Students take this course during their final semester, allowing them to integrate and build upon the core competencies of the program.

Rules & Requirements
Requisites: Prerequisites, PUBA 709, PUBA 710, PUBA 711, PUBA 719, PUBA 720, PUBA 721, PUBA 723, PUBA 731, PUBA 760, and PUBA 745.
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PUBA 747. Applied Research Problem I. 1.5 Credits.
Students required to reflect on and demonstrate how they apply and integrate their learning from six required MPA courses and their professional public service work experiences to successfully respond to an applied research problem. Students will select from a list of applied research problems, conduct a literature review, collect data, and identify their preliminary findings.

Rules & Requirements
Requisites: Prerequisites, PUBA 709, 710, 719, 720, 721; and one of the following courses, 723, 731, or 760; Pre- or corequisite, The Professional Work Experience (PWE) requirement is also a curricular milestone that must be completed before enrolling in this course.
Repeat Rules: May be repeated for credit. 3 total credits. 2 total completions.
Grading Status: Letter grade.

PUBA 748. Applied Research Problem II. 1.5 Credits.
Students will continue to work on their applied research problem from PUBA 747. Students are expected to enter PUBA 748 with a complete (clean) dataset, including a preliminary analysis that has been revised to include the feedback from PUBA 747 instructors. In this course, students will continue with the data analysis, discuss the findings, and develop recommendations.

Rules & Requirements
Requisites: Prerequisites, PUBA 709, 710, 719, 720, 721, 723, 731, 760, and 747.
Repeat Rules: May be repeated for credit. 3 total credits. 2 total completions.
Grading Status: Letter grade.

PUBA 751. Local Government Management. 3 Credits.
Nature of city or county manager's job: expectations of elected body, staff, public and professional peers. Examines contemporary issues in departmental operations that have significant effect on how manager's performance is perceived.

Rules & Requirements
Grading Status: Letter grade.

PUBA 752. Productivity Improvement. 3 Credits.
This course is designed to acquaint students with concepts associated with strategic planning, productivity improvement, the importance of innovative service delivery, the measurement of performance, the gauging of constituent satisfaction, the viability of major proposals offered for improving operations, and the techniques for improving effectiveness. The course prepares students to conduct productivity analyses and to design realistic strategies for improving organizational operations.

Rules & Requirements
Grading Status: Letter grade.

PUBA 753. Performance Management in Local Government. 3 Credits.
The purpose of Performance Management in Local Government is to introduce students to how local officials measure the inputs, outputs, and outcomes of service delivery and how they use these performance data for making management and policy decisions. The course also includes how local officials use other types of data to information decision-making, including content analysis, benchmarking, financial condition analysis, and benefit-cost analysis.

Rules & Requirements
Grading Status: Letter grade.

PUBA 754. Social Equity in Public Administration: Theory to Practice. 1.5 Credits.
Designed to help students think critically about social equity as the fourth pillar of public administration. Covering the origins of social equity as a concept in public administration. The course will also examine how social equity has been operationalized in practice, including how organizations create more equitable workplaces and communities and barriers to achieving social equity. Lastly, students will explore their roles and responsibilities to build a more just society as future public sector leaders.

Rules & Requirements
Grading Status: Letter grade.

PUBA 756. Nonprofit Management. 3 Credits.
Examination of the managerial challenges posed by nonprofit organizations and of techniques and practices used by managers of nonprofit organizations.

Rules & Requirements
Grading Status: Letter grade.

PUBA 757. Financial Management of Nonprofit Organizations. 3 Credits.
Provides basic financial skills for leaders of nonprofits, including bookkeeping fundamentals, interpreting financial statements, budgeting, cash management and investment, and legal compliance.

Rules & Requirements
Requisites: Prerequisites, SOWO 517 and 570.
Grading Status: Letter grade.
Same as: SOWO 885.

PUBA 758. Navigating Nonprofit Local Government. 3 Credits.
This course is designed for graduate students who are seeking professional positions in local government or nonprofits. The overall objectives are to exchange information about issues of mutual concern to both nonprofits and governments.

Rules & Requirements
Grading Status: Letter grade.

PUBA 759. Social Capital's Role in American Communities: From Theory to Practice. 1.5 Credits.
Social capital can come in many forms (trust, civic engagement, community attachment, and social networks) and has become one of the most contested concepts in social sciences. This course is designed to balance theories, methods, and applications, drawing on literatures from sociology, public policy, public administration, communication, media studies, and management.

Rules & Requirements
Grading Status: Letter grade.

PUBA 760. Law for Public Administration. 3 Credits.
Introduction to basic law subjects likely to be encountered in public administration. Topics include constitutional foundations, due process and equal protection, and First Amendment rights; property, contracts, employment, torts, criminal law, administrative law, and public ethics laws; and basic legal research, managing litigation, and working with lawyers.

Rules & Requirements
Grading Status: Letter grade.

PUBA 763. Grant Writing and Evaluation. 1.5 Credits.
Nonprofit leaders and public officials rely on grants to help fund their grand plans. You will learn the process of finding grants, how to prepare a grant proposal, and how to plan for and manage grant funds. This course will address some of the similarities and differences between the funding process from federal/state agencies and private foundations. Students may not receive credit for both PUBA 763 and PUBA 764. On campus MPA students only.

Rules & Requirements
Grading Status: Letter grade.

PUBA 764. Grant Writing. 3 Credits.
This course is designed to acquaint students with the grant seeking process for not-for-profit and public sector agencies. Through a review of specific writing techniques, students will practice and learn how to produce proposals that are comprehensive, cogent, and accountable to the objectives of the grantor agency. Students may not receive credit for both PUBA 763 and PUBA 764.

Rules & Requirements
Grading Status: Letter grade.

PUBA 765. Capital Budgeting and Finance. 1.5 Credits.
Analysis of alternative approaches to planning and administering the budgets and financial operations of public agencies. Extensive use of case materials.

Rules & Requirements
Grading Status: Letter grade.

PUBA 766. Boards and Governance for Nonprofit Organizations. 1.5 Credits.
In this course we will examine theories and concepts of nonprofit organizational governance structures. Through this course, students will develop a foundational understanding of board governance fundamentals, board development, board leadership, and common practices of high performing boards.

Rules & Requirements
Grading Status: Letter grade.

PUBA 767. Nonprofit Sector Systems Thinking and Collaboration. 1.5 Credits.
PUBA 767 will look at the relationship between Government, Nonprofit, and Private sector organizations through collaboration theory and a system thinking framework that allows for a deeper look at what influences how these networks of relationships work, to challenge how we think it works, and bring awareness and understanding to develop the public service leadership skills and strategies needed for effective community level collaboration.

Rules & Requirements
Grading Status: Letter grade.

PUBA 768. Mediation Skills for Public Organizations. 1.5 Credits.
Workshop-style course focuses on workplace and service provision conflicts to develop mediation skills; is comprised of short lectures, demonstration, and student practice of a mediation model/specific skill sets. May not be taken in addition to PUBA 772.

Rules & Requirements
Grading Status: Letter grade.

PUBA 769. Facilitation Skills for Public Sector Managers. 1.5 Credits.
Course is workshop-style that includes advance reading, videos and online assignments; concentrated two-day instruction on skills; and a reflection paper. Course focuses on inter-organization and community settings to develop facilitation skills and is comprised of short lectures, demonstration, and student practice of facilitation strategies.

Rules & Requirements
Grading Status: Letter grade.

PUBA 771. Managing Economic Development. 3 Credits.
Emphasizes the practical application and implementation of various approaches to economic development. Students will apply tools/strategies by doing case studies and small group projects based on real-world scenarios faced by local practitioners.

Rules & Requirements
Grading Status: Letter grade.

PUBA 772. Mediation Skills for Public Managers. 3 Credits.
Examination of ombudsman and mediation principles, roles, ethics and techniques in public sector. Students are expected to develop mediation skills through observation, in-class practice and feedback. Models of mediation are compared and shared in class their application and/or adaptation of mediation to their current or desired public sector duties. An introduction to dispute systems design frames how mediation, and its variants can benefit students' public service. May not be taken in addition to PUBA 768.

Rules & Requirements
Grading Status: Letter grade.

PUBA 778. Strategic Information Technology Management. 3 Credits.
This course provides public managers with the basic knowledge to successfully manage technology projects and government information. The use of information technology has become an indispensable part of the public sector. Governments now use technology to communicate with citizens, disseminate information, and engage in digital democracy. This course is for on campus MPA students. Students cannot take PUBA 777 in addition to this course.

Rules & Requirements
Grading Status: Letter grade.

PUBA 779. Strategic Fund Development for Nonprofit Leaders. 1.5 Credits.
This course is designed to help students develop a deep understanding of concepts, techniques and theories of nonprofit fundraising. After an introduction to philanthropy, students will utilize tools and resources for fundraising and analyze and evaluate fundraising methods. This course is applied meaning it is important to have a relationship with a nonprofit organization where you can access current fundraising collateral and apply principles of fundraising to the improvement of fundraising methods/products.

Rules & Requirements
Grading Status: Letter grade.

PUBA 780. Special Topics in Public Administration. 1-3 Credits.
Seminar in selected areas of public administration. Topics will vary from year to year. May be repeated for credit.

Rules & Requirements
Requisites: Prerequisite, permission of the instructor.
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

PUBA 781. Directed Readings in Public Administration. 1-3 Credits.
Directed readings in a special field under the direction of a member of the graduate faculty.

Rules & Requirements
Repeat Rules: May be repeated for credit. 9 total credits. 9 total completions.
Grading Status: Letter grade.

PUBA 782. Cybersecurity for Public Administrators. 1.5 Credits.
The primary goal of this course is to build students' knowledge of cybersecurity concepts, understanding of the threat landscape, overview of cyber liability insurance, principles of good cyber hygiene, and incident response strategies. Students may not take this course if they have previously or are currently taking PUBA 778: Strategic IT Management.

Rules & Requirements
Grading Status: Letter grade.

PUBA 787. Applied Environmental Finance: How to Pay for Environmental Services. 3 Credits.
How can governments, communities, organizations, and businesses fund environmental services? This applied course reviews the diverse tools and strategies that environmental service providers use to pay for programs. The course will focus on environmental services related to: drinking water, wastewater, storm-water, watershed protection, energy efficiency, renewable energy, sustainability, and wetlands.

Rules & Requirements
Grading Status: Letter grade.
Same as: PLAN 787, ENVR 787.

PUBA 900. Research in Public Administration. 1 Credits.
In PUBA 900 students conduct research and preparation for their thesis substitute and oral examination.

Rules & Requirements
Repeat Rules: May be repeated for credit. 5 total credits. 5 total completions.
Grading Status: Letter grade.

Contact Information

School of Government
Visit Program Website (http://www.sog.unc.edu)

Dean
Aimee N. Wall

M.P.A. Program Director
Willow Jacobson
jacobson@sog.unc.edu

DEPARTMENT OF HEALTH BEHAVIOR (GRAD)

The Gillings School's Department of Health Behavior is the home for master of public health concentrations in health behavior, global health, health equity and social justice, as well as a dual master's degree and a doctoral degree. The department's students develop the skills they need to be community change agents for issues that undermine public health both locally and globally, including: violence, obesity, cancer, HIV, health policy, and health disparities.

The Department of Health Behavior's mission is to provide leadership in research, teaching, and practice to understand the social and behavioral determinants of health problems and develop effective interventions that are built on theory, scientific evidence, and respect for basic values of justice and human dignity in North Carolina, nationally, and internationally.

Master of Public Health (M.P.H.)

The redesigned UNC Gillings School of Global Public Health's master of public health (M.P.H.) program is for people who are passionate about solving urgent local and global public health problems. With a legacy of outstanding education, cutting edge research and globally recognized leadership, the UNC Gillings School is creating the next generation of public health leaders through our integrated training program and 21st-century curriculum. The Department of Health Behavior hosts the Health Behavior, Health Equity and Social Justice (EQUITY), and Global Health concentrations.

Master's-to-Doctoral (M.S.P.H.-Ph.D.)

The master's-to-doctoral program (M.S.P.H.-Ph.D.) is for bachelor's trained students seeking the Ph.D. in health behavior. Training focuses initially on acquiring master's level core competencies in public health and health behavior, resulting in the M.S.P.H. degree. Students then complete all requirements for the Ph.D. in health behavior.

Doctor of Philosophy (Ph.D.)

The doctor of philosophy (Ph.D.) in the Department of Health Behavior is for students with a prior M.P.H. or related master's degree. Students are trained to lead research that will advance understanding of health-related behaviors and their determinants at all social levels as they contribute to critical public health problems. Doctoral students gain skills and knowledge in the empirical, conceptual, and theoretical foundations of the field, research methods, intervention development and evaluation, and professional development topics. Graduates apply their training to research focused on domestic and global public health problems.

Graduate Certificate in Total Worker Health®

The Department of Health Behavior and the North Carolina Occupational Safety and Health Education and Research Center offer the Graduate Certificate in Total Worker Health® to train students from diverse disciplines to work effectively together to protect and promote workers' health.

Carolina Graduate Certificate in Innovation for the Public Good (CIPG)

The Carolina Graduate Certificate in Innovation for the Public Good (CIPG) gives master's and doctoral students an educational pathway to explore modern change-making and practice the skills they need to help create meaningful change in the world. The certificate is sponsored by three academic units: the College of Arts and Sciences, Gillings School of Global Public Health, and the School of Education.

Public Health, Master's Program (M.P.H.) — Health Behavior Concentration

The Master of Public Health (MPH) concentration in Health Behavior is hosted by the Gillings School's Department of Health Behavior (recently named the #2 best social and behavioral science program per U.S. News Rankings in 2024) and prepares students for leadership positions in public health practice. You will learn to use social and behavioral science to develop, adapt, implement and evaluate programs and policies that promote health, prevent disease and injury, and work towards health equity at all levels of the social ecological framework – from the individual to organizations; from communities to macro-structures and policies.

In the Health Behavior concentration, master's students gain practical, career-relevant, on-the-ground experience through a mentored summer practicum and a capstone group project working with a community partner organization.

Course Requirements

Requirements for the M.P.H. degree in the Health Behavior concentration

Code	Title	Hours
M.P.H. Integrated Core		
SPHG 711	Data Analysis for Public Health	2
SPHG 712	Methods and Measures for Public Health Practice	2
SPHG 713	Systems Approaches to Understanding Public Health Issues	2
SPHG 701	Leading from the Inside-Out	2
SPHG 721	Public Health Solutions: Systems, Policy and Advocacy	2
SPHG 722	Developing, Implementing, and Evaluating Public Health Solutions (MPH Comprehensive Exam administered in class)	4
M.P.H. Practicum		
SPHG 703	MPH Pre-Practicum Assignments	0.5
SPHG 707	MPH Post-Practicum Assignments	0.5
M.P.H. Concentration		
HBEH 730	Theoretical Foundations of Health Behavior	3
HBEH 750	Interpreting Health Behavior Research	2
HBEH 752	Health Behavior Survey Methods	2
HBEH 753	Qualitative Methods in Health Behavior	3
HBEH 746	Community-Led Capstone Project	3
HBEH 772	Planning, Implementing, and Evaluating Health Behavior Interventions	2
M.P.H. Electives		
Electives (Graduate-level courses, 400+ level at Gillings, 500+ level at UNC)		9

M.P.H. Culminating Experience		
HBEH 992	Master's (Non-Thesis)	3
Minimum Hours		**42**

Admissions

Please visit Applying to the Gillings School (https://sph.unc.edu/students/how-to-apply/) first for details and information. Application to the residential M.P.H. is a 2-step process. Please apply separately to (1) SOPHAS and (2) UNC–Chapel Hill (via the Graduate School application link that will be sent after completing the SOPHAS application). Visit the Graduate School Web site (https://gradschool.sites.unc.edu/master-of-public-health/) for more details. If you are interested in the online M.P.H., please visit the MPH@UNC (https://onlinemph.unc.edu/) website and fill out an inquiry form.

Milestones

- Master's Committee
- Master's Written Examination/Approved Substitute (Comprehensive Exam)
- Thesis Substitute (Culminating Experience)
- Residence Credit
- Exit Survey
- Master's Professional Work Experience (Practicum)

Public Health, Master's Program (M.P.H.) — Health Equity & Social Justice Concentration

The Health Equity and Social Justice (EQUITY) (https://sph.unc.edu/resource-pages/master-of-public-health/health-equity-and-social-justice/) concentration is hosted by the Gillings School's Departments of Epidemiology, Environmental Sciences and Health Behavior. This concentration will prepare you for positions in diverse areas of public health through training in quantitative, qualitative and community-engaged approaches in research and practice.

A cross-cutting and interdisciplinary concentration, EQUITY will empower you with a fundamental understanding of the history, principles, theories and frameworks of health equity, anti-racism, social justice and human rights

Course Requirements

Requirements for the M.P.H. degree in the Health Equity, Social Justice, and Human Rights concentration

Code	Title	Hours
M.P.H. Integrated Core		
SPHG 711	Data Analysis for Public Health Fall 1	2
SPHG 712	Methods and Measures for Public Health Practice Fall 1	2
SPHG 713	Systems Approaches to Understanding Public Health Issues Fall 1	2
SPHG 701	Leading from the Inside-Out Spring 1	2
SPHG 721	Public Health Solutions: Systems, Policy and Advocacy Spring 1	2
SPHG 722	Developing, Implementing, and Evaluating Public Health Solutions (MPH Comprehensive Exam administered in class) Spring 1	4
M.P.H. Practicum		
SPHG 703	MPH Pre-Practicum Assignments Spring 1	0.5
SPHG 707	MPH Post-Practicum Assignments Fall 2	0.5
M.P.H. Concentration		
HBEH 700	Leading for Health Equity Fall 1	3
EPID 892	Translating Health Equity Methods into Practice [1]	0.5
HBEH 720	Health Equity Methods Spring 1	3
ENVR 784	Community-Driven Research and Environmental Justice (This class will be updated to 3 credits, effective Fall 2025) Fall 2	2
EPID 826	Introduction to Social Epidemiology Fall 2	2
HBEH 746	Community-Led Capstone Project Fall 2	3
M.P.H. Electives		
Elective (Graduate-level courses, 400+ level at Gillings, 500+ level at UNC)		3
Elective (Graduate-level courses, 400+ level at Gillings, 500+ level at UNC)		3
Elective (Graduate-level courses, 400+ level at Gillings, 500+ level at UNC)		3
M.P.H. Culminating Experience		
HBEH 992	Master's (Non-Thesis) Spring 2	3
Minimum Hours		**41**

[1] Must be taken twice (Fall 1 and Fall 2) for a total of 1 credit hour.

Competencies

Students will develop the following Health Equity, Social Justice, and Human Rights competencies, building on the foundational public health knowledge they attain in the Gillings M.P.H. Integrated Core courses.

Column 1	Column 2
HSH01.	Critically evaluate the ways in which current and historical policies, institutions, and groups influence social determinants of health and contribute to inequities in health across the life course.
HSH02.	Apply relevant tools and methods to advance health equity research and practice.
HSH03.	Interpret data to identify the systemic inequities across multiple sectors, such as health, education, criminal justice, business, housing, and economic development.
HSH04.	Critique multilevel, structural, and systems approaches to public health research and practice using principles of health equity, social justice, and human rights.
HSH05.	Evaluate how health programs and policies address health equity, social justice, and human rights.

HSH06.	Collaborate with communities using participatory approaches to understand public health inequities and devise strategies to address them.

Admissions

Please visit Applying to the Gillings School (https://sph.unc.edu/students/how-to-apply/) first for details and information. Application to the residential M.P.H. is a 2-step process. Please apply separately to (1) SOPHAS and (2) UNC–Chapel Hill (via the Graduate School application). Visit the Graduate School website (https://gradschool.sites.unc.edu/master-of-public-health/) for more details. If you are interested in the online M.P.H., please visit the MPH@UNC (https://onlinemph.unc.edu/) website and fill out an inquiry form.

Milestones

- Master's Committee
- Master's Written Examination/Approved Substitute (Comprehensive Exam)
- Thesis Substitute (Culminating Experience)
- Residence Credit
- Exit Survey
- Master's Professional Work Experience (Practicum)

Public Health, Master's Program (M.P.H.) — Global Health Concentration

Our signature philosophy is that local is global and global is local. Designed to train professionals to solve public health problems locally and globally, the Global Health concentration (https://sph.unc.edu/resource-pages/master-of-public-health/global-health-concentration/) provides students with skills to advance the health and well-being of populations in diverse global settings. Students will gain skills in the program management, qualitative and quantitative research, and monitoring and evaluation of public health programs and projects that are aligned with local culture, contexts, and resources. This concentration is available only in a residential format.

Hosted by the Gillings School's Departments of Environmental Sciences and Engineering, Health Behavior, Maternal and Child Health, and Public Health Leadership Program, the Global Health concentration is designed for a broad range of professionals from a variety of disciplines who are interested in working on public health problems in resource-constrained settings outside the United States, or with foreign or vulnerable populations who face challenges to health because of similar resource constraints in the U.S. and other wealthy nations. Graduates in this concentration will be equipped to make immediate contributions to government agencies, nonprofits, private sector companies, research institutes, universities and international organizations. Students can take advantage of the many global health organizations located in the Research Triangle Park area bordering the University of North Carolina. We have close partnerships with organizations such as FHI360, RTI and IntraHealth International in addition to broad contacts with health departments in North Carolina and relationships with diverse research and practice institutions worldwide. Through these connections, we will provide you with opportunities to apply knowledge gained in the classroom to real-world problems.

Course Requirements

Requirements for the M.P.H. degree in the Global Health concentration

Code	Title	Hours
M.P.H. Integrated Core		
SPHG 711	Data Analysis for Public Health	2
SPHG 712	Methods and Measures for Public Health Practice	2
SPHG 713	Systems Approaches to Understanding Public Health Issues	2
SPHG 701	Leading from the Inside-Out	2
SPHG 721	Public Health Solutions: Systems, Policy and Advocacy	2
SPHG 722	Developing, Implementing, and Evaluating Public Health Solutions (MPH Comprehensive Exam administered in class)	4
M.P.H. Practicum		
SPHG 703	MPH Pre-Practicum Assignments	0.5
SPHG 707	MPH Post-Practicum Assignments	0.5
M.P.H. Concentration		
PUBH 711	Critical Issues in Global Health	3
MHCH 780	Cultural Humility	2
HBEH 780	Mixed Methods for Global Health	3
ENVR 779	Project Management and Implementation	3
HBEH 782	Professional Development for Global Health	1
MHCH 723	Monitoring and Evaluation of Global Health Programs	3
M.P.H. Electives		
Electives (Graduate-level courses, 400+ level at Gillings, 500+ level at UNC)		9
M.P.H. Culminating Experience		
ENVR 992	Master's Technical Report	3
Minimum Hours		**42**

Admissions

Please visit Applying to the Gillings School (https://sph.unc.edu/students/how-to-apply/) first for details and information. Application to the residential M.P.H. is a 2-step process. Please apply separately to (1) SOPHAS and (2) UNC–Chapel Hill (via the Graduate School application link that will be sent after completing the SOPHAS application). Visit the Graduate School Web site (https://gradschool.sites.unc.edu/master-of-public-health/) for more details. If you are interested in the online M.P.H., please visit the MPH@UNC (https://onlinemph.unc.edu/) website and fill out an inquiry form.

Milestones

- Master's Committee
- Master's Written Examination/Approved Substitute (Comprehensive Exam)
- Thesis Substitute (Culminating Experience)
- Residence Credit
- Exit Survey
- Master's Professional Work Experience (Practicum)

Health Behavior, Doctoral Program (Ph.D.)

In the Doctor of Philosophy in Health Behavior program, students are trained to lead research that will advance understanding of health-related

behaviors and their determinants at all social levels as they contribute to critical public health problems. Doctoral students gain skills and knowledge in the empirical, conceptual and theoretical foundations of the field, research methods, intervention development and evaluation and professional development topics. Graduates apply their training to research focused on domestic and global public health problems.

Course Requirements

Code	Title	Hours
Public Health Foundation Courses		
SPHG 600	Introduction to Public Health [1]	
Core Courses		
Theoretical Foundations		
HBEH 815	Foundations of Health Behavior I	3
HBEH 816	Foundations of Health Behavior II	3
One Advanced Theory Course [2]		3
Research Methods		
HBEH 760	Research Methods with Health Behavior Applications I	3
HBEH 761	Applied Statistical Methods in Health Behavior Research I	3
HBEH 762	Applied Statistical Methods in Health Behavior Research II	3
HBEH 763	Scale Development Methods	3
HBEH 860	Research Proposal Development	3
One Advanced Methods Course [2]		3
Interventions		
HBEH 811	Development and Evaluation of Health Promotion and Disease Prevention Interventions	3
One Advanced Interventions Course [2]		3
Professional Development		
HBEH 812	Professional Development for Doctoral Students I	2
HBEH 813	Professional Development for Doctoral Students II	1
Electives		
Electives must be graduate-level courses. Students are encouraged to choose electives in HB and other departments, take additional advanced methods courses, and select courses that reflect their substantive interests.		10
Thesis/Substitute or Dissertation		
HBEH 994	Doctoral Research and Dissertation	6
Minimum Hours		**52**

1. Students without a prior bachelor's or masters degree from an accredited school of public health must take the 3-credit SPHG 600/FLO course before the completion of the 4th semester and before the written comprehensive exam. These 3 credits do not count towards the 52 credit minimum for graduation.
2. Advanced courses must be graduate-level courses offered in Health Behavior or in other departments.

Milestones

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 27) for more information.

- Doctoral Committee
- Doctoral Oral Comprehensive Exam
- Doctoral Written Exam
- Prospectus Oral Exam
- Advanced to Candidacy
- Dissertation Defense
- Doctoral Dissertation Approved/Format Accepted
- Residence Credit
- Exit Survey
- Doctoral Professional Work Experience (Primary Practicum - researched focused)
- Doctoral Professional Work Experience (Secondary Practicum - focus determined by student/advisor)

Professors

Clare Barrington, Global Health, Infectious Diseases, Minority Health, Sexually Transmitted Diseases
Noel Brewer, Biases in Health Decisions, Health Communication, Decision Making, Cancer Prevention and Control
Edwin Fisher, Diabetes, Community and Peer Interventions, Chronic Disease Management, Smoking and Smoking Cessation
Vivian Go, Global Health, Opiates, HIV/AIDS, Sexually Transmitted Diseases, Substance Abuse, Violence Prevention
Carol Golin, Adherence to Chronic Medical Therapy, Patient-Provider Communication, Medical Decision Making for HIV Therapy and Prevention
Laura Linnan, Applied Research in Worksites and Other Community-Based Settings, Multiple Risk Factor Behaviors, Organizational Change
Suzanne Maman, HIV/AIDS, Global Health, Associations Between HIV and Violence
Kurt Ribisl, Tobacco Control Policy, Built Environment and Health, Cancer Prevention and Control
Deborah Tate, Obesity, Computer/Internet Interventions, Health Communication

Associate Professors

Lynn White Blanchard, Research Around Public Service (Including Community Partnerships and Collaborations), Program Evaluation, Service Learning
Liz Chen, Adolescent Health, Design Thinking, Technology
Carolyn Crump, Worksite Health Promotion and Evaluation, Program Planning, Management
Melissa Gilkey, Adolescent Health, Cancer Prevention, Health Services Research, Barriers to Vaccination
Shelley Golden, Public Policies and Health Behavior, Tobacco Policy, Place-Based Health
Abigail Hatcher, Interventions for Intimate Partner Violence
Larissa Jennings Mayo-Wison, Adolescent Health, Sexual and Reproductive Health, Economic/Mobile Health Interventions
Alexandra Lightfoot, Community-Based Participatory Research, Health Disparities, Healthy Choices and Behaviors to Support the Growth and Development of Youth, Educational Inequities
K. Elizabeth (Beth) Moracco, Women's Health, Violence Against Women, Evaluation Research
H. Luz McNaughton Reyes, Adolescent Health, Reproductive Health, Global Health
Nora Rosenberg, HIV/AIDS, Adolescent Health, Global Health, Women's Health, Sexual Behavior

Assistant Professors

Kristin Black, Reproductive Health, Health Equity, Community Engagement
Melissa Cox, Adolescent Health, Alcohol Use, Place-Based Health
Dane Emmerling, Pedagogy, Health Equity
Marissa Hall, Cancer Prevention Policy, Chronic Disease, Obesity Prevention
Lauren Hill, HIV/AIDS, Global Health
Megan Ellenson Landfried, Community Engagement, Culturally Relevant Interventions
Yesenia Merino, Health Equity, Community Engagement, Pedagogy
Sarah Mills, Racial/Ethnic and Socioeconomic Disparities in Tobacco Use, Tobacco-Related Disease
Patsy Polston, Community Engagement, Health Inequities
Natalicio Serrano, Physical Activity, Neighborhood Environments, Health Equity
Deshira Wallace, Cardiovascular Disease, Type 2 Diabetes, U.S. Latin and Latin American Health

Adjunct Professors

Vangie Foshee, Adolescent Violence Prevention
Robert Foss, Alcohol and Transportation-Related Injury, Adolescent Injury, Social Policy Approaches to Injury Prevention
Adam Goldstein, Tobacco Intervention
Krista Perreira, Child Development and Adolescence, Mental Health and Substance Abuse, Latino Health, Education, and Employment, Demography of Immigration
Christopher Ringwalt, Drug Prevention, Survey Research, Program Evaluation
Carol Runyan, Injury Control, Violence Prevention, Worksite Injury Prevention
Michael Schulman, Occupational Injury; Injury Prevention and Control; Work, Violence and Health Among Adolescents
Paschal Sheeran, Social Psychology, Health Behavior Change

Adjunct Associate Professors

Johanna Birckmayer, Health Policy, Tobacco Control
Lori Carter-Edwards, Aging, Evidence-Based Public Health, Minority Health, Women's Health
Susan Gaylord, Alternative Therapies and Integrative Health Care, Aging, Health Beliefs and Care Pathways
Christine Jackson, Parenting and Family-Based Public Health, Health Communication, and Community-Based Intervention
Shawn Kneipp, Health of Disadvantaged Populations; Welfare Policy, Employment, and Women's Health
Kathleen MacQueen, (Adjunct Assistant) Qualitative Research Methods and Approaches in Research Design, Ethics in Public Health and Research (Including Applied Ethics Research), Social and Behavioral Dimensions of Clinical Trials Research (Especially HIV Prevention Trials)
Kathryn Pollak, Patient-Physician Communication, Smoking Cessation, Health Disparities
Wizdom Powell, Men's Health, Population Health Disparities, Social and Health Behavior Theory
Scott Rhodes, Sexual Health, HIV and Sexually Transmitted Disease Prevention, Health Disparities Among Vulnerable Communities
LaHoma Romocki, HIV/AIDS, Reproductive Health, Health Literacy, Diabetes, HPV Vaccine Feasibility, Cancer
Celette Skinner, Cancer Screening, Cancer Genetics, Tailored Interventions
Paige Hall Smith, Violence Against Women, Women's Health, Breastfeeding
Brian Southwell, Health Communication
Deborah Stroman, Diversity and Inclusion, Sport Business, Entrepreneurship, Marketing, Leadership Development
Anna Waller, Injury Prevention and Control, Data System Users (especially Database Design), Emergency Department Data and Surveillance
Godfrey Woelk, Project Design, Execution, and Analysis in HIV Prevention and Care, Maternal Health, Hypertensive Diseases of Pregnancy, Child Health, Community-Based HIV and Sexually Transmitted Disease Prevention
Michael Yonas, (Adjunct Assistant), Social and Contextual Factors Associated with Youth Violence and Dating Violence, Community-Based Participatory Research

Adjunct Assistant Professors

Mary Altpeter, Health Promotion and Older Adults, Particularly Older Women; Community-Based Research and Health Promotion with Older Adults; Community-Based Research with Rural Populations
Amrita Bhowmick, Health Care Marketing
Stephanie Baker, Racial Inequities in Cancer Care Treatment
Marcy Boynton, Novel Applications of Intensive Repeated Measures Designs, Health Communication, Effect of Stress and Coping Processes on Health Decision-Making
Lauren Brinkley-Rubinstein, Impact of Incarceration on Health Outcomes
Felicia Browne, HIV Behavioral Intervention
Justin Byron, Health Communication, Tobacco Control
Ewan Cobran, Cancer, Health Disparities
Delesha Miller Carpenter, Chronic Disease Self-Management, Patient-Provider Communication, Social Support
Lori Carter-Edwards, Cardiovascular Disease, Community Engagement, Evidence-Based Public Health, Faith-Based Organizational Health Promotion, Diabetes, Obesity, Health Disparities, Health Equity, Hypertension
Ewan Cobran, Oncology, Medically Underserved Populations and Cancer Health Disparities
Donald Conserve, HIV Prevention, Treatment, and Care Among Multiple Populations
Melissa Cox, Adolescent and Young Adult Alcohol Abuse
Robert Flewelling, Substance Abuse Prevention, Community-Based Intervention, Adolescent Health Risk Behaviors
Moses Goldmon, Minority Health, Obesity, Public Health Leadership, Community Engagement
Jennifer Gierisch, Cancer Prevention/Control, Health Communication, Chronic Disease Management, Mental Health, Tobacco Use Prevention/Control, Women's Health
Lisa Gilbert, Sexual and Reproductive Health, STD/HIV Prevention and Sex Education, Health Communication, Behavior Change Theory and Practice, Adolescent and Women's Health
Susan Haws, Adolescent Health, School-Based Health, Substance Abuse
Megan Lewis, Social Relationships and Health, Cardiovascular Disease, Social Ecology
Kathleen MacQueen, Social, Behavioral and Ethical Aspects of Biomedical HIV Prevention Trials; Vaccines, Microbicides and PrEP
David McCoy, American Indian Health, Health Care of Rural and Minority Populations, Budgetary and Policy Aspects of the Delivery of Health Care
Margaret Molloy, Prevention, Health Behavior Change, Health Policy
Allison Myers, Tobacco Control, Public Health Policy, Health Equity
Melva Fager Okun, Tobacco Cessation, Nutrition, Physical Activity
Robert Pleasants, Injury Prevention and Control
Cherie Rosemond, Aging, Interdisciplinary Community Engagement

English Sall, Organizational Development and Metrics and Evaluation for Social Impact and Humanitarian Aid
Arjumand Siddiqi, Social Epidemiology, Children's Health and Development, Social Policy and Health
Maihan Vu, Qualitative Research, Adolescent Health, Obesity and Physical Activity
Michael Yonas, Qualitative Research, Participatory Research Approaches, Social Determinants of Health

Adjunct Instructors

Margaret (Molly) Cannon, International Health, Diabetes Prevention/Control, Health Care Delivery, Injury Prevention/Control
Denise Dickinson, Intervention Design and Program Management, Home-Based Interventions for Families
Elizabeth French, Patient Advocacy, Professional Development
Bernard Glassman, Emerging Technologies for Health Communication, Communication About Emerging Health Technologies, Writing About Science for Results
Sally Herndon, Health Policy, Tobacco Use Prevention/Control
Maija Leiff, Carolina Collaborative for Research on Work and Health (CCRWH)
Alexis Moore, (Lecturer), Community-Based and Rural Health Promotion, Lay Health Advisors, Breast and Cervical Cancer
Ingrid Morris, Health Policy, Health Promotion, Obesity Prevention
Carol Patterson, Obesity Prevention, Coping Mechanisms for Chronic Illness, Community Networking in Research Endeavors
Patsy Polston, Water Research, Healthy Environments for Underserved Populations
Elizabeth Stern, Intimate Partner Violence, Training and Education, Latino Health, Sexual Violence
Karen Strazza, Community-Based Public Health, Community-Based Participatory Research, Minority Health, International Health
Katherine Turner, International Women's Health, Education and Training, Sexual and Reproductive Health Education and Counseling, Cultural Competency (Especially on Lesbian, Gay, Bisexual, and Transgender Health)
Gina Upchurch, Health Policy, Aging, Pharmaceutical Care
Amy Vincus, Global Monitoring and Evaluation, Adolescent Health, Substance Use Prevention, Sexual Violence
Karen Webb, Mental Health, Substance Abuse Prevention, Coalition-Building

Professors Emeriti

Brenda DeVellis
Robert DeVellis
Leslie Lytle
Allan Steckler

HBEH

Advanced Undergraduate and Graduate-level Courses

HBEH 411. Pathways to Effective Community Engagement. 2 Credits.
This course is designed to provide a framework for students to reflect on their existing public service and community engagement experiences, critically examine important issue areas, build skills and consider how what they are learning may inform their career paths. Students will participate in weekly group lecture and recitation sessions as well as completing at least 30 hours of work in partnership with a community organization.

Rules & Requirements

IDEAs in Action Gen Ed: HI-SERVICE.
Grading Status: Pass/Fail.

HBEH 510. Foundations of Equity, Ethics, and Engagement in Public Health. 3 Credits.
Students will 1) explore how health inequities appear in different populations; 2) examine historical and relevant events to unpack how health inequities came to be; and 3) gain an overview of self-reflective and community engagement strategies used by health behavior practitioners and researchers to ethically partner with others to identify and address health inequities.

Rules & Requirements
Grading Status: Letter grade.

HBEH 520. Introduction to Global Health. 3 Credits.
This course introduces fundamental terminology, frameworks, problems, and solutions in global health. We will explore the historical and modern-day influences that have shaped the systems, issues, actors, and priorities of global health today. This course will expose students to: critical global health challenges; leaders across diverse sectors who are working to develop innovative solutions, policies, and programs to address these challenges; and roles that students can play to contribute to improving global health.

Rules & Requirements
Grading Status: Letter grade.

HBEH 531. Community Engagement and Assessment to Advance Health Equity and Social Justice. 3 Credits.
Engaging communities to identify their strengths, needs and priorities and determine action steps to address them is at the core of public health practice. Conducting a health assessment with communities is an essential public health function required in local and global contexts. This class will examine approaches to the assessment process, compare qualitative and quantitative data collection methods, and examine strategies for ensuring effective and equitable community engagement throughout the assessment process.

Rules & Requirements
Grading Status: Letter grade.

HBEH 532. Development and Evaluation of Health Behavior Interventions. 4 Credits.
This course will provide exposure to interventions designed to address determinants of health issues across all levels of the social ecological framework. Students will think critically about the purpose, design, and success of public health interventions. Throughout the course, students will learn the relevant terminology, frameworks, and processes to design, adapt, implement, and evaluate interventions in health behavior.

Rules & Requirements
Requisites: Prerequisite, SPHG 352 or instructor permission for students lacking the prerequisites.
Grading Status: Letter grade.

HBEH 555. Collaboration & Community Organizing in Public Health: A Community Based Culminating Experience. 4 Credits.
In this course, students explore collaboration through Public Health framework and skills and Community Organizing's public narrative framework. A 150-hour internship experience with a local organization dedicated to advancing health, justice, or equity is part of this course. This course is the culmination of the training you have receiving in your first year and an opportunity to contribute your time and skills to the public health field. Majors only.

Rules & Requirements
IDEAs in Action Gen Ed: HI-INTERN.
Grading Status: Letter grade.

HBEH 609. Leadership for Alternative Breaks. 2 Credits.
This experiential service-learning course will focus on interpersonal leadership theories, skill development, and application, with an in-depth emphasis on leadership as a behavior (i.e., self in relation to others). Students in this course serve as alternative break leaders through the APPLES Service-Learning Program. Leadership practices learned in this course will be directly applied to their experience as a break leader and to long-term leadership growth and development.

Rules & Requirements
Grading Status: Letter grade.

HBEH 610. Alternative Spring Break. 2 Credits.
This course will explore issues, theories, and experiences relevant to social action, coalition building, and social change. The content of this course will be examined by confronting the possibilities and limitations of service and service-learning as it relates to APPLES Alternative Spring Break experiences.

Rules & Requirements
IDEAs in Action Gen Ed: HI-SERVICE.
Grading Status: Pass/Fail.

HBEH 611. Philanthropy as a Tool for Social Change. 3 Credits.
In this course students learn about and experience the process of awarding grants to local agencies. In addition to participating in the grant-making process, students learn about the nonprofit sector and the philosophy and practice of philanthropy through readings, class exercises, and guest speakers.

Rules & Requirements
IDEAs in Action Gen Ed: HI-SERVICE.
Grading Status: Letter grade.

HBEH 625. Injury as a Public Health Problem. 3 Credits.
This course examines unintentional injuries from a public health perspective. The course covers core concepts in injury prevention and control, including the epidemiology of unintentional injury, prevention strategies, behavioral models, child and adolescent injury, messaging framing, the Haddon matrix, and injury surveillance.

Rules & Requirements
Requisites: Corequisite, EPID 600.
Grading Status: Letter grade.
Same as: EPID 625, MHCH 625.

HBEH 626. Violence as a Public Health Problem. 3 Credits.
This course covers core concepts in violence prevention and control, including the epidemiology of violence, prevention strategies for inter-personal and intra-personal violence, behavioral models that describe power structures that reinforce personal and societal factors affecting self-harm and violence towards others, and violence directed towards children and adolescents.

Rules & Requirements
Grading Status: Letter grade.
Same as: EPID 626, MHCH 626.

HBEH 658. Rapid Prototyping. 3 Credits.
This interprofessional service-learning course prepares students to work in teams alongside community members to quickly, efficiently, and effectively develop and test innovative prototypes (i.e. preliminary versions of a solution) to help solve pressing and complex challenges. Using a participatory rapid prototyping approach, this course will make the innovation and problem-solving processes more accessible by equipping students with the skills to frame testable ideas, define measures, build prototypes, and execute experiments. Permission of instructor required to enroll.

Rules & Requirements
Grading Status: Letter grade.

HBEH 690. Special Topics in Health Behavior. 1-3 Credits.
Special topics in health behavior. An experimental course designed for faculty who wish to offer a new course. Content will vary from semester to semester.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 6 total completions.
Grading Status: Letter grade.

HBEH 691H. Honors Research I. 3 Credits.
In this 2-semester series, students design and write up a research or evaluation project. In the first semester (fall), students plan and develop a written proposal for their project. In the second semester (spring), students complete writing the honors thesis which includes the rationale for, methods used, and results of their research project. Enrollment is only for students approved to conduct a senior honors thesis project; instructor permission required.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Requisites: Prerequisite, Instructor Permission Required.
Grading Status: Letter grade.

HBEH 692H. Honors Research II. 3 Credits.
In this 2-semester series, students design and write up a research or evaluation project. In the first semester (fall), students plan and develop a written proposal for their project. In the second semester (spring), students complete writing the honors thesis which includes the rationale for, methods used, and results of their research project. Enrollment is only for students approved to conduct a senior honors thesis project; instructor permission required.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Requisites: Prerequisite, HBEH 691H.
Grading Status: Letter grade.

Graduate-level Courses

HBEH 700. Leading for Health Equity. 3 Credits.
This course will expose students to the broad context through which public health practitioners and researchers understand and address health equity in public health. It will use an intersectional lens to prepare students to examine persistent health inequities across systems and structures and investigate strategies for change. In addition, this course will promote a commitment from students to applied leadership in public health through a firm understanding and definition of racism, power, and privilege; historic and current structures that sustain racism, power, and privilege; and strategies to advance health equity in research and practice.

Rules & Requirements
Grading Status: Letter grade.

HBEH 701. A Holistic Approach to Understanding & Achieving Health Equity. 3 Credits.
This course will take a holistic approach to understanding and achieving health equities. We will explore how inequities appear in different populations; examine historical and relevant events to unpack how these inequities came to be; and identify strategies to intervene to reduce or eliminate these inequities. We will identify and develop a model to be utilized as a tool when addressing public health related issues.

Rules & Requirements
Grading Status: Letter grade.

HBEH 705. Lesbian, Gay, Bisexual, Transgender and Queer Health: A Population Perspective. 3 Credits.
This seminar course explores health challenges faced by LGBT populations. Discussions will span a variety of health behaviors and outcomes, determinants of health, developmental stages, identities, and settings. Students will be able to identify conceptual frameworks and considerations relevant in LGBT health research and practice.

Rules & Requirements
Grading Status: Letter grade.

HBEH 706. Effective Training for Global Health. 1 Credits.
Students are introduced to adult learning principles, effective training methods, course design and evaluation for international audiences and settings, and characteristics of culturally-competent trainers. Students work in teams to: design a course and activity; facilitate the activity; and provide and incorporate feedback to foster peer sharing and learning.

Rules & Requirements
Grading Status: Letter grade.

HBEH 707. Homelessness and Public Health: Cross-Discipline Approaches to Solving a Global Reality. 1 Credits.
This course is designed to introduce students to the recent drivers of homelessness, the intersection between built environment and structural factors that impact someone's path into or out of homelessness, the policy landscape situating housing and homeless service provision, and the interventions that are shaping healthcare delivery for the most marginalized.

Rules & Requirements
Grading Status: Letter grade.

HBEH 710. Community Capacity, Competence, and Power. 3 Credits.
The nature and delineation of participatory action research and its relevance to concepts, principles, and practices of community empowerment. Students learn methods (such as photovoice) through learning projects.

Rules & Requirements
Grading Status: Letter grade.

HBEH 715. Communication for Health-Related Decision Making. 2 Credits.
Course provides foundation and skills to understand and improve decision making that affects people's health. It teaches theoretical basis and evidence-based applications of health-related decision making.

Rules & Requirements
Grading Status: Letter grade.

HBEH 720. Health Equity Methods. 3 Credits.
This course provides students with the tools to select methods, collect and analyze data, and evaluate programs, all using an health equity lens. We discuss critical approaches to quantitative and qualitative methods, how to develop health equity-centering and inclusive measurements, and how to use community-based approaches to data collection and analysis.

Rules & Requirements
Grading Status: Letter grade.

HBEH 723. Critical History of Public Health. 3 Credits.
This course critically examines the history of public health as a mechanism for understanding current issues in public health. Using critical theory, students will analyze a variety of topics through a historical lens, critiquing the institutions, power dynamics, ideologies, practices, and consequences of various public health efforts, particularly as they relate to engaging with communities. Students should have at least one year of public health coursework.

Rules & Requirements
Grading Status: Letter grade.

HBEH 726. Adolescent Health. 3 Credits.
Topics covered include the epidemiology of health problems, developmental issues, health services, and psychosocial influences on adolescent problem behaviors. Course materials are useful for research generation and practical application. Three seminar hours per week.

Rules & Requirements
Grading Status: Letter grade.
Same as: MHCH 726.

HBEH 730. Theoretical Foundations of Health Behavior. 3 Credits.
This course will provide an overview of social and behavioral science theories and frameworks that are currently used to: 1) understand health related behaviors; and 2) guide development of interventions and policies designed to prevent, reduce or eliminate major public health problems. We will use an ecological framework to examine theories at multiple levels of the social ecology, focusing on applications that will impact health at the population level.

Rules & Requirements
Grading Status: Letter grade.

HBEH 735. Applied Intersectionality for Public Health. 3 Credits.
This course will introduce some of the foundational thinking that has given rise to intersectionality as a framework for understanding the intersection of multiple marginalized populations in health equity. The course will also survey methods and measurement approaches in intersectionality research. The latter part of the course will focus on applications of intersectionality research in public health, including implementation science and public policy.

Rules & Requirements
Grading Status: Letter grade.

HBEH 744. Research Practicum for MSPH-to-PhD Students I. 1-2 Credits.
Individually designed and mentored research practicum for enhancing knowledge and skills in research through work on a research project.

Rules & Requirements
Repeat Rules: May be repeated for credit. 2 total credits. 2 total completions.
Grading Status: Letter grade.

HBEH 745. Research Practicum for MSPH-to-PhD Students II. 1-2 Credits.
Mentored research practicum in writing a publishable manuscript.

Rules & Requirements
Requisites: Prerequisite, HBEH 744.
Repeat Rules: May be repeated for credit. 2 total credits. 2 total completions.
Grading Status: Letter grade.

HBEH 746. Community-Led Capstone Project. 3 Credits.
Capstone (HBEH 746/992) is a year-long, community-led, group-based, mentored, critical service-learning course that gives students an opportunity to synthesize and apply their MPH training to community-designed public health projects. Over an entire academic year, each team of 4-5 Capstone students works with a partner organization and its constituents to produce a set of 4-6 deliverables that are responsive to the community partner organization's self-identified needs. Capstone serves as a substitute for The Graduate School's master's thesis requirement and satisfies the Council on Education for Public Health's (CEPH) Integrative Learning Experience (ILE) requirements.

Rules & Requirements
Grading Status: Letter grade.

HBEH 748. Design Thinking for the Public Good. 3 Credits.
This course will train an interdisciplinary group of graduate students to apply the mindsets, methods, and process associated with design thinking (i.e. human-centered design) to solve real world problems. Design thinking is a creative problem solving process that prioritizes ethnographic market research, convergent and divergent thinking, as well as rapid prototyping. Students will collaborate with community members to design solutions (products, services, etc.) that are desirable, feasible, and viable.

Rules & Requirements
Grading Status: Letter grade.
Same as: PLCY 748.

HBEH 749. mHealth for Behavior Change. 2 Credits.
This special topics seminar examines the impact and potential of mobile health interventions and apps for health behavior change. The overall course objective is to understand state of the science and future potential to leverage mobile phones and wearable technologies in innovative and powerful behavior change interventions to improve health. The course considers adaptation of eHealth interventions for mobile delivery, unique opportunities with mHealth, data collection via mobile devices and sensors, and using the data.

Rules & Requirements
Grading Status: Letter grade.
Same as: NUTR 749.

HBEH 750. Interpreting Health Behavior Research. 2 Credits.
This course reviews quantitative methods in health behavior research, focusing on validity of conclusions drawn from observational and evaluation studies. The goal is to help public health practitioners be savvy consumers of published research studies and to identify the strengths and weaknesses of planned programs. Permission of the instructor required for non-majors.

Rules & Requirements
Grading Status: Letter grade.

HBEH 752. Health Behavior Survey Methods. 2 Credits.
This course is a critical examination and application of the concepts and methodologies necessary for effectively selecting, adapting, implementing, and evaluating evidence-based public health interventions. Restricted to Health Behavior MPH Concentration Students, others must seek permission of instructor.

Rules & Requirements
Grading Status: Letter grade.

HBEH 753. Qualitative Methods in Health Behavior. 3 Credits.
Approaches to designing qualitative research studies for the development and evaluation of public health programs. Emphasis is on the practice of collecting and analyzing data from individual interviews, focus group discussions, and observations. All students in the course are required to have completed CITI Human Subjects Training. Information on completing the training can be found at the CITI website: http://www.citiprogram.org/default.asp?language=english.

Rules & Requirements
Requisites: Prerequisite, HBEH 750.
Grading Status: Letter grade.

HBEH 754. Advanced Qualitative Research Methods in Health Behavior and Health Research. 3 Credits.
This course provides advanced graduate students in public health and related fields the opportunity to explore different analytic approaches and techniques and develop analysis and writing skills. Students will apply methods they learn to analyze, interpret and write-up the results of their own qualitative research.

Rules & Requirements
Requisites: Prerequisite, HBEH 753.
Grading Status: Letter grade.

HBEH 756. Social and Peer Support in Health: An Ecological and Global Perspective. 3 Credits.
Course will survey social support in health, including the nature and key processes of social support, cultural influences in different countries, and approaches to promoting peer support in health promotion around the world. Term assignment will entail planning a peer support program or research project of the student's choice.

Rules & Requirements
Grading Status: Letter grade.

HBEH 760. Research Methods with Health Behavior Applications I. 3 Credits.
Permission of the instructor for non-majors. Fundamentals of quantitative research in health behavior, including conceptualization of research questions and hypotheses, sampling, and experimental and observational research designs.

Rules & Requirements
Grading Status: Letter grade.

HBEH 761. Applied Statistical Methods in Health Behavior Research I. 3 Credits.
Fundamentals of statistical inference and estimation and hypothesis testing for linear models (ANOVA, ANCOVA, regression analysis) with continuous and categorical outcome data. Applications with health behavior data. Permission of the instructor for non-majors.

Rules & Requirements
Grading Status: Letter grade.

HBEH 762. Applied Statistical Methods in Health Behavior Research II. 3 Credits.
This course prepares students to conduct regression with non-continuous outcomes and analyze nested or longitudinal data.

Rules & Requirements
Requisites: Prerequisite, HBEH 761.
Grading Status: Letter grade.

HBEH 763. Scale Development Methods. 3 Credits.
The purpose of this course is to provide students with a foundational theoretical knowledge of psychological assessment and a skills-oriented understanding of common qualitative and quantitative analytical techniques for scale construction. A secondary course objective is to expose students to structural latent variable models and related advanced latent variable modeling techniques relevant to scale development. This course is intended for doctoral students. Previously offered as HBEH 852.

Rules & Requirements
Requisites: Prerequisite, HBEH 750; Permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

HBEH 765. Cancer Prevention and Control Seminar. 3 Credits.
An interdisciplinary overview of cancer prevention and control. Emphasis on projects and activities from perspectives of epidemiology, health behavior and education, and health policy and management. Appropriate research design and methodologies are covered.

Rules & Requirements
Grading Status: Letter grade.
Same as: HPM 765, EPID 772.

HBEH 770. Social Determinants of Health in the US. 3 Credits.
This course examines the social, economic, cultural, organizational, and institutional factors that impact public and population health in the US. These factors include population characteristics (social class, age, gender, cultural background, race, ethnicity), individual beliefs and behaviors, and socio-political systems and practices that affect public health problems and policies. Although the course focuses on the United States, many of the same factors affect health and longevity across population subgroups in other countries.

Rules & Requirements
Grading Status: Letter grade.

HBEH 772. Planning, Implementing, and Evaluating Health Behavior Interventions. 2 Credits.
Designed to provide practical tools that can be used in real world settings, this course will examine methods to plan health behavior interventions and determine if and how a particular health-related program works. Several major types of evaluation will be covered, with emphasis on process and impact evaluation. Restricted to Health Behavior MPH Concentration Students.

Rules & Requirements
Requisites: Prerequisites, SPHG 711, SPHG 712, SPHG 713, HBEH 730, and HBEH 750.
Grading Status: Letter grade.

HBEH 775. Introduction to Public Health Policy and The Policy-Making Process. 3 Credits.
This course introduces skills needed to effectively assess and influence a four phase policy process: 1) Defining the problem toward structural solutions; 2) Developing a policy or structural solution by using systems thinking and policy agenda windows and applying policy analysis tools to optimize the solution; 3) Using advocacy strategies to influence the solution toward enactment; and 4) Clarifying the implementation components that need to be in place and the political games that ensue.

Rules & Requirements
Grading Status: Letter grade.

HBEH 780. Mixed Methods for Global Health. 3 Credits.
This course introduces students to key concepts in mixed methods analysis for global health. You will learn how to plan and implement a mixed methods project using existing data. You will develop skills around qualitative data management, coding, and analysis. Using a sequential, mixed methods design you will use qualitative insights to design a quantitative hypothesis. Qualitative and quantitative findings will be combined and applied to a current global health policy or practice. Restricted to Global Health MPH students.

Rules & Requirements
Grading Status: Letter grade.

HBEH 782. Professional Development for Global Health. 1 Credits.
Professional Development is part of the required training sequence for second year MPH students in the Global Health concentration.

Rules & Requirements
Requisites: Prerequisites, MHCH 780 and HBEH 781.
Grading Status: Letter grade.

HBEH 784. Implementation Science in Global Health. 3 Credits.
Implementation science aims to improve health through the translation of evidence-based intervention into routine care. This course will provide an overview of the foundational skills of implementation science in global health including tailoring to the local context, systematic approaches to identifying implementation barriers and selecting appropriate implementation strategies, and using rigorous study designs to evaluate implementation outcomes. Restricted to students enrolled in the Global Health MPH Concentration.

Rules & Requirements
Grading Status: Letter grade.

HBEH 785. Critical issues in work, worker and workplace health. 3 Credits.
This course prepares students to contribute as members of an interdisciplinary team to protect and promote workers' health. Students will learn that work is a social determinant of health and explore the context in which worker health protection/promotion practitioners work. Students will be able to summarize key regulations and policies that impact work and worker health.

Rules & Requirements
Grading Status: Letter grade.
Same as: ENVR 795.

HBEH 786. Essential Methods for Evaluating Worker and Workplace Health. 3 Credits.
Required course for the graduate certificate in Total Worker Health. Students in this course will develop skills for deploying a comprehensive, multi-level assessment of worker and workplace health. Students will draw on the evidence base to articulate a plan for engaging employees in assessments; describe how to conduct individual worker assessments ethically and legally; conduct several types of organizational assessment; summarize administrative data (such as use of sick leave in the worksite) and practice communicating.

Rules & Requirements
Grading Status: Letter grade.

HBEH 787. Planning, Implementing and Evaluating Total Worker Health Interventions. 3 Credits.
Required course for the graduate certificate in Total Worker Health. Students in this course will apply the Comprehensive Planning-Implementation-Evaluation Framework to recommend a Total Worker Health intervention to address the needs of a specific group of workers. They will learn to use multiple data sources to identify a priority worker health/safety issue; identify and/or adapt worker-health interventions from the literature; and write an implementation and evaluation plan for their Total Worker Health intervention.

Rules & Requirements
Requisites: Pre- or corequisite, HBEH 785 or ENVR 795.
Grading Status: Letter grade.

HBEH 790. Racialization and Health. 3 Credits.
Racialization, or the process of race making in time and place, is a concept that is foundational to public health practice and research. This course will use historical and sociological perspectives to learn about the construction of ethnoracial groups across the Americas, how racialization is defined in law, manifested in geography, medicine, and occupation. We will also apply the racialization framework to the critique racialized data in public health.

Rules & Requirements
Grading Status: Letter grade.

HBEH 799. Special Studies in Behavior Change. 1-6 Credits.
Experimental course to be offered by faculty to determine the need and demand for the subject. Topics will be chosen by faculty based on current public health issues.

Rules & Requirements
Grading Status: Letter grade.

HBEH 811. Development and Evaluation of Health Promotion and Disease Prevention Interventions. 3 Credits.
Permission of the instructor for non-majors. Doctoral seminar on application of theory and empirical evidence to intervention development, evaluation paradigms, and methods of process and outcome evaluations.

Rules & Requirements
Grading Status: Letter grade.

HBEH 812. Professional Development for Doctoral Students I. 2 Credits.
Focus is on professional development competencies needed for doctoral training and career advancement. Emphasis is on topics relevant to students early in training.

Rules & Requirements
Grading Status: Letter grade.

HBEH 813. Professional Development for Doctoral Students II. 1 Credits.
Focus is on professional development competencies needed for doctoral training and career advancement. Emphasis is on topics relevant to students nearing the dissertation phase and training completion.

Rules & Requirements
Grading Status: Letter grade.

HBEH 815. Foundations of Health Behavior I. 3 Credits.
A critical examination of the conceptual, theoretical, and empirical bases of public health and health education, health transitions, and globalization. Restricted to doctoral students majoring or minoring in Health Behavior.

Rules & Requirements
Grading Status: Letter grade.

HBEH 816. Foundations of Health Behavior II. 3 Credits.
A critical examination of the social determinants of health, health disparities, principles of individual and collective behavior and behavior change, and the role of health behavior in emerging public health issues. Restricted to doctoral students majoring or minoring in Health Behavior.

Rules & Requirements
Grading Status: Letter grade.

HBEH 825. Seminar in Interdisciplinary Health Communication. 3 Credits.
Permission required for non-majors. Interdisciplinary overview of communication theory and research and critical analysis of applications of theory to interventions using communication for health. Three hours per week.

Rules & Requirements
Requisites: Prerequisite, HBEH 730.
Grading Status: Letter grade.
Same as: MEJO 825.

HBEH 842. Primary Practicum for Doctoral Students. 1-4 Credits.
Individually designed and mentored practicum for gaining and strengthening skills in research.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

HBEH 843. Secondary Practicum for Doctoral Students. 1-4 Credits.
Individually designed and mentored practicum for gaining and strengthening skills in teaching, research, or another area relevant to professional goals.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

HBEH 851. Causal Modeling and Structural Equations. 3 Credits.
This seminar is designed to refine a wide range of research skills in health behavior by using data collected by others. Three seminar hours per week.

Rules & Requirements
Requisites: Prerequisite, BIOS 545; Permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

HBEH 860. Research Proposal Development. 3 Credits.
Restricted to doctoral students in department. Integration and application of detailed components of research methods to preparation and writing of a research grant proposal. Introduction to proposal submission and review process for various funding agencies.

Rules & Requirements
Grading Status: Letter grade.

HBEH 861. Global Mental Health. 3 Credits.
Global fundamentals, characteristics, public health impacts, prevention, and management of mental health and mental illness. Master's and doctoral students, fellows, and upper-level undergraduates.

Rules & Requirements
Grading Status: Letter grade.

HBEH 891. Special Studies in Behavior Change. 1-6 Credits.
An independent course designed for study areas of natural or planned change; personal and nonpersonal methods, in health related fields. To be arranged with faculty in each case.

Rules & Requirements
Grading Status: Letter grade.

HBEH 892. Special Topics in Program Design and Evaluation. 1-6 Credits.
Required preparation, to be arranged with the faculty in each case. An independent course of study designed for students who wish to pursue advanced studies in program design and evaluation. Repeatable within degree (for six hours).

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

HBEH 893. Special Studies in Behavior Change. 1-6 Credits.
An independent course of study for students who wish to pursue studies in social class and variations in planned change. To be arranged with faculty in each case. Fall, spring, and summer.

Rules & Requirements
Grading Status: Letter grade.

HBEH 897. Advanced Topics in Health Behavior. 1-6 Credits.
For doctoral students who wish to pursue an independent study or research in a selected area. Student will work with a faculty member in designing the study.

Rules & Requirements
Grading Status: Letter grade.

HBEH 960. Principles and Practices of Alternative, Complementary and Integrative Medicine. 3 Credits.
This course is designed to introduce medical students and other health professionals to the underlying philosophies, practitioners, techniques, and evidence of efficacy of alternative therapeutics currently in use in the United States, including chiropractic, dietary, mind-body, acupuncture, homeopathy, and healing.

Rules & Requirements
Grading Status: Letter grade.

HBEH 992. Master's (Non-Thesis). 3 Credits.
Capstone (HBEH 746/992) is a year-long, community-led, group-based, mentored, critical service-learning course that gives students an opportunity to synthesize and apply their MPH training to community-designed public health projects. Over an entire academic year, each team of 4-5 Capstone students works with a partner organization and its constituents to produce a set of 4-6 deliverables that are responsive to the community partner organization's self-identified needs. Capstone serves as a substitute for The Graduate School's master's thesis requirement and satisfies the Council on Education for Public Health's (CEPH) Integrative Learning Experience (ILE) requirements. Majors only.

HBEH 994. Doctoral Research and Dissertation. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

Contact Information

Department of Health Behavior
Visit Program Website (http://www.sph.unc.edu/hb/)

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BIOMEDICAL AND HEALTH INFORMATICS PROGRAM (GRAD)

The Biomedical and Health Informatics program is an interdisciplinary program that administers the master of professional science in biomedical and health informatics and the doctor of philosophy in health informatics.

Biomedical and Health Informatics, M.P.S.

The MPS in Biomedical and Health Informatics is an interdisciplinary, 35-credit, non-thesis degree program. The degree is available as an online program or residential (on-campus) program.

Graduates of the program will gain knowledge and skills in:

- Management of large scale projects related to clinical and public health information systems
- Development and evaluation of health information systems that impact clinical decision making and health care quality
- Analysis and management of health data for improvement in clinical practice, biomedical research and public health services

The program partners with several top-ranked academic units on UNC campus. Its interdisciplinary nature draws faculty and scholars from information and computer science, public health, biostatistics, medicine, nursing, dentistry, data science, and pharmacy.

Course Requirements

Code	Title	Hours
General Informatics Core		**9**
CHIP 690	Intermediate Selected Topics (CHIP 690.335) [1]	
CHIP 732	Database Systems in Healthcare [2]	
CHIP 710	Systems Analysis in Healthcare [3]	
Biomedical and Health Informatics Foundations		**6**
CHIP 725	Electronic Health Records	
CHIP 721	Healthcare Systems in the US [4]	
Track Course (Required)		**3**
NURS 870	Applied Health Informatics in Complex Health Care Systems	
or HPM 620	Implementing Health Informatics Initiatives for Emerging Leaders	
Electives		**14**
Complete a minimum of 2 credits for the Biomedical and Health Informatics Foundations Electives. Select from the list below. [5]		2
Complete a minimum of 3 credits for the General Informatics Core Electives. Select from the list below.		3
Complete a minimum of 3 credits for the Track Electives (clinical informatics or public health). Select from the list below.		3
Complete a minimum of 6 credits for the Business Skills Electives. Select from the list below.		6
Thesis/Substitute or Dissertation		
CHIP 793	Health Informatics Internship	3
Minimum Hours		**35**

1. Students previously took CHIP 490.335 or INLS 560.
2. Students previously took CHIP 490.297.
3. Students previously took CHIP 490.296 (on campus), CHIP 490.311 (online), CHIP 690.296 (on campus), or CHIP 690.311 (online).
4. Students previously took CHIP 490.291 or CHIP 690.291.
5. We recommend students take CHIP 770.

Code	Title	Hours
Biomedical and Health Informatics Foundations Electives		
CHIP 770	Health Informatics Seminar	
CHIP 690	Intermediate Selected Topics (CHIP 690.295 Foundations of Clinical Data Science, CHIP 690.001 Introduction to Statistical Analysis in Healthcare, or CHIP 690.307 Human Factors in Healthcare)	
BCB 720	Introduction to Statistical Modeling	
INLS 719	Usability Testing and Evaluation	
INLS 772	Applied Statistics, Machine Learning, & Data Communication	
BIOS 512	Data Science Basics	
General Informatics Core Electives		
INLS 501	Information Resources and Services	
INLS 509	Information Retrieval	
INLS 512	Applications of Natural Language Processing	
INLS 520	Organization of Information	
INLS 541	Information Visualization	
INLS 550	History of the Book and Other Information Formats	
INLS 613	Text Mining	
INLS 623	Database Systems II: Intermediate Databases	
INLS 625	Information Analytics	
INLS 642	Data Mining	
CHIP 690	Intermediate Selected Topics (CHIP 690.309 QI Visualization in Healthcare, CHIP 690.310 Healthcare Data Analytics, or CHIP 690.314 QI and Lean Six Sigma)	
INLS 718	User Interface Design	
INLS 720	Metadata Architectures and Applications	
INLS 722	Introduction to Metadata Architectures and Applications	
INLS 750	Introduction to Digital Curation	
INLS 765	Information Technology Foundations for Managing Digital Collections	
INLS 777	Perspectives on Information, Technology, and People	
NURS 969	Applied Data Analysis	
Track Elective (clinical informatics or public health)		
INLS 613	Text Mining	
INLS 625	Information Analytics	
INLS 642	Data Mining	

CHIP 690	Intermediate Selected Topics (CHIP 690.309 QI Visualization in Healthcare, CHIP 690.310 Healthcare Data Analytics, or CHIP 690.333 Intro to Public Health Informatics)
INLS 718	User Interface Design
INLS 777	Perspectives on Information, Technology, and People
PUBH 711	Critical Issues in Global Health
PUBH 714	Introduction to Monitoring and Evaluation
PUBH 725	The HIV/AIDS Course Online
PUBH 760	Clinical Measurement and Evaluation (PUBH 760.001 Clinical Measurement and Evaluation)
NURS 790I	Population Health: Interprofessional Management in a Changing Healthcare System
NURS 936	Informatics for Safe and Effective Health Care
NURS 969	Applied Data Analysis
Business Skills Electives	
BUSI 405	Leading and Managing: An Introduction to Organizational Behavior
CHIP 400	Digital Health Innovations and Impact
CHIP 690	Intermediate Selected Topics (CHIP 690.314 QI and Lean Six Sigma)
GRAD 712	Leadership in the Workplace
GRAD 713	Applied Project Management: Frameworks, Principles and Techniques
GRAD 714	Introduction to Financial Accounting
GRAD 715	Business Communication
GRAD 717	Introduction to Entrepreneurship and The Entrepreneurial Mindset
GRAD 725	Build Your Professional Brand: Develop Job Search Skills and Materials to Make Employers Notice You
GRAD 726	Executive Perspective: Business Fundamentals
GRAD 727	Team Collaboration
HPM 714	Advanced Spreadsheet Modeling for Business
HPM 725	Health Care Strategy and Marketing
HPM 730	Leadership and Workforce Management Strategies
HPM 742	Health Care Finance
HPM 743	Health Care Reimbursement
INLS 585	Management for Information Professionals
INLS 685	Project Management: Strategy and Applications
PUBH 714	Introduction to Monitoring and Evaluation
PUBH 725	The HIV/AIDS Course Online
PUBH 730	Leading Continuous Quality Improvement (CQI) in Public Health Locally And Globally
PUBH 747	Project Management Principles and Practices
PUBH 748	Leadership in Health Policy for Social Justice
PUBH 784	Project Management Strategy and Application
MBA 893B	Healthcare Analytics

Milestones

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 27) for more information.

- Master's Committee
- Master's Oral Exam/Approved Exam Substitute
- Thesis Substitute
- Residence Credit
- Master's Exit Survey

Health Informatics, Ph.D.

The PhD in Health Informatics program at UNC Chapel Hill (UNC-CH) prepares graduate students to contribute to the field of biomedical and health informatics studies through research, teaching and exposure to practical biomedical and health informatics challenges. The Carolina Health Informatics Program (CHIP) PhD trains scholars for careers in research and instruction as well as leadership roles in the industry. The program provides students with research experience, familiarity with biomedical and health informatics concepts, theories and methods.

Course Requirements:

Code	Title	Hours
Core & Frontier Pillar		**6**
Must take a minimum of 6 credit hours. See a list of elective options below.		
Tools & Infrastructure Pillar		**6**
Must take a minimum of 6 credit hours. See a list of elective options below.		
Research Methods Pillar		**3**
Must take a minimum of 3 credit hours. See a list of elective options below.		
Project Management & Leadership Pillar		**3**
Must take a minimum of 3 credit hours. See a list of elective options below.		
Implementation Science & Research Translation Pillar		**3**
Must take a minimum of 3 credit hours. See a list of elective options below.		
Electives		**12**
Any graduate level course that advances a student's knowledge of health informatics, and/or relevant skills needed to successfully conduct their dissertation research, will count toward the required coursework for the health informatics PhD program. A list of course subject areas is available on Canvas. See a list of elective course options below.		
Thesis/Substitute or Dissertation		
CHIP 994	Doctoral Research and Dissertation [1]	3
Minimum Hours		**55**

[1] Students must take CHIP 994 twice for a minimum of 6 credit hours.

Code	Title	Hours
Core & Frontier Pillar		
BIOS 511	Introduction to Statistical Computing and Data Management	
BIOS 611	Introduction to Data Science	
BIOS 660	Probability and Statistical Inference I	
BIOS 735	Statistical Computing - Basic Principles and Applications	
CHIP 690	Intermediate Selected Topics	
EPID 600	Principles of Epidemiology for Public Health	

HPM 730	Leadership and Workforce Management Strategies
INLS 509	Information Retrieval
INLS 523	Introduction to Database Concepts and Applications
INLS 541	Information Visualization
INLS 584	Information Ethics
INLS 623	Database Systems II: Intermediate Databases
INLS 718	User Interface Design
INLS 751	Data Governance and Curation
INLS 760	Web Databases
BIOS 512	Data Science Basics
EDUC 710	Introductory Statistical Methods
CHIP 770	Health Informatics Seminar
NURS 870	Applied Health Informatics in Complex Health Care Systems
BCB 720	Introduction to Statistical Modeling

Code	Title	Hours
Tools & Infrastructure Pillar		
CHIP 690	Intermediate Selected Topics	
CHIP 725	Electronic Health Records	
COMP 775	Image Processing and Analysis	
EPID 700	SAS and Data Management	
GEOG 567	Geospatial Data Analysis with Google Earth Engine	
HPM 714	Advanced Spreadsheet Modeling for Business	
HPM 770	Operations Research for Healthcare Systems	
INLS 512	Applications of Natural Language Processing	
INLS 560	Programming for Information Science	
INLS 582	Systems Analysis	
INLS 625	Information Analytics	
INLS 641	Visual Analytics	
INLS 761	Data Analysis	
INLS 767	Information Assurance	
PLAN 672	Urban Data Analytics	
BIOS 635	Introduction to Machine Learning	
BIOS 600	Principles of Statistical Inference	
INLS 613	Text Mining	
NURS 969	Applied Data Analysis	
STOR 455	Methods of Data Analysis [H]	

[H] Honors version available. An honors course fulfills the same requirements as the nonhonors version of that course. Enrollment and GPA restrictions may apply.

Code	Title	Hours
Research Methods Pillar		
CHIP 690	Intermediate Selected Topics	
DPET 831	Quantitative Methods in Clinical Research	
EPID 726	Epidemiologic Research Methods	
EPID 766	Epidemiologic Research with Healthcare Databases	
HPM 794	Patient-Reported Outcomes Measurement and Application in Healthcare Research and Practice	
HPM 880	Principles of Health Policy Research Methods	
HPM 884	Overview of Health Services Research/Health Policy	
HPM 885	Health Services/Health Policy Research Methods	
INLS 884	Seminar in Research Methodology	
INLS 719	Usability Testing and Evaluation	
BBSP 705	Best Practices for Rigor and Reproducibility in Research	
BBSP 901	Research in Biological and Biomedical Sciences	

Code	Title	Hours
Project Management & Leadership Pillar		
CHIP 400	Digital Health Innovation	
ENVR 989	Environmental Crisis Management	
EDUC 850	Change Leadership and Systems Improvement	
GRAD 712	Leadership in the Workplace	
GRAD 713	Applied Project Management: Frameworks, Principles and Techniques	
HPM 620	Implementing Health Informatics Initiatives for Emerging Leaders	
HPM 730	Leadership and Workforce Management Strategies	
HPM 959	Strategic Planning for Public and Non-Profit Organizations	
INLS 585	Management for Information Professionals	
INLS 685	Project Management: Strategy and Applications	
NURS 966	Implementing Health System Innovations in Complex Organizations	
PUBH 747	Project Management Principles and Practices	

Code	Title	Hours
Implementation Science & Research Translation Pillar		
BIOS 740	Specialized Methods in Health Statistics	
GRAD 720	Team-based Consulting for Technology Commercialization	
HPM 600	Introduction to Health Policy and Management	
HPM 620	Implementing Health Informatics Initiatives for Emerging Leaders	
HPM 759	Health Policy Analysis and Advocacy for Health Leaders	
HPM 767	Implementation Science in Health	
INLS 509	Information Retrieval	
MBA 893B	Healthcare Analytics	

Code	Title	Hours
Electives		
	Course options not used to fulfill the pillar course requirements may be taken as an elective.	
CHIP 793	Health Informatics Internship	

Milestones:

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 27) for more information.

- Doctoral Committee
- Doctoral Oral Comprehensive Exam

- Doctoral Written Exam
- Prospectus Oral Exam
- Advanced to Candidacy
- Dissertation Defense
- Doctoral Dissertation Approved/Format Accepted
- Residence Credit
- Doctoral Exit Survey
- Doctoral Intradepartmental Review (PhD Checkpoint)

Contact Information

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DEPARTMENT OF HEALTH POLICY AND MANAGEMENT (GRAD)

The Gillings School's top-ranked Department of Health Policy and Management trains transformational leaders in public health, healthcare management, policy and advocacy, and health services research to address the most pressing issues in health policy, health care delivery, and public health. We prepare our students to improve population health both domestically and globally. We are committed to ensuring that all people — regardless of age, gender, race, ethnicity, disability, sexual orientation, geographic origin, religion, or economic resources — have access to high-quality health services.

Mission

To improve health for all by creating and translating knowledge into policy and practice and educating current and future health leaders, managers, policymakers, practitioners, and researchers.

Vision

High quality, accessible and affordable health systems that achieve optimal population health in North Carolina, across the United States, and around the world.

Our research strengths include:

- Aging services and supports
- Behavioral health
- Cancer care
- Global health
- Health care delivery and payment
- Health equity and access
- Rural health

Degrees Offered

The Department of Health Policy and Management (https://sph.unc.edu/hpm/hpm-degrees-and-certificates/) offers a Master of Science in Public Health (MSPH), a Master of Health Administration (MHA), a Doctor of Philosophy (PhD), a Doctor of Public Health (DrPH), and a graduate-level certificate in community preparedness and disaster management. The department also offers several dual degrees with the Kenan-Flagler Business School, the School of Information and Library Science, and the Law School. The Gillings School of Global Public Health offers a Master of Public Health (MPH) with a concentration in health policy led by the Department of Health Policy and Management. Students in the MPH Degree can pursue a dual degree (https://sph.unc.edu/resource-pages/mph-dual-degree-partnerships/) with the School of Social Work, Department of City and Regional Planning, Eshelman School of Pharmacy and Law School.

Healthcare Administration, Master's Program (M.H.A.)

The M.H.A. is a professional degree for individuals wishing to pursue management careers in health organizations, including health systems, hospitals, consulting firms, managed care organizations, insurance companies, medical group practices, government agencies, or other health related organizations. The M.H.A. degree provides strong preparation in the management disciplines, a comprehensive understanding of the health care sector, and professional development. Students are encouraged to take elective courses in particular areas of interest. The M.H.A. program is CAHME accredited.

Course Requirements

Code	Title	Hours
Public Health Foundation Courses		
SPHG 600	Introduction to Public Health [1]	3
Core Courses		
HPM 601	Issues in Health Care	1
HPM 671	Statistical Methods for Health Policy and Management	3
HPM 701	Professional Training I [2]	1
HPM 702	Professional Training II [2]	1
HPM 703	Professional Training III [2]	1
HPM 710	Health Law	3
HPM 715	Health Economics for Policy and Management	3
HPM 720	Management of Human Resources in Health Organizations	3
HPM 725	Health Care Strategy and Marketing	3
HPM 730	Leadership and Workforce Management Strategies	3
HPM 740	Health Care Financial Accounting	2
HPM 741	Management Accounting for Health Administrators	3
HPM 742	Health Care Finance	3
HPM 743	Health Care Reimbursement [3]	1
HPM 754	Health Care in the United States Structure and Policy	3
HPM 760	Healthcare Quality and Information Management	3
HPM 770	Operations Research for Healthcare Systems	3
HPM 793	Health Policy and Management Internship	2
Electives		
11 total graduate-level elective credit hours required, 2 total hours during Spring 1 and 9 total hours during Spring 2. Selected in consultation with Faculty Mentor.		11
Thesis/Substitute or Dissertation		
HPM 734	Approaches to Business Plan Development	1
HPM 735	Advanced Concepts and Applications in Health Policy and Management	3
Minimum Hours		**60**

1. Students without a prior bachelor's or masters degree from an accredited school of public health must take SPHG 600.
2. These 1-credit courses do not count towards the 60 hours needed to graduate.
3. HPM 743 can also be taken in later semesters.

Milestones

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 27) for more information.

- Master's Committee
- Master's Oral Exam / Approved Substitute

- Thesis Substitute (Capstone Project)
- Residence Credit
- Exit Survey

Recommended Checklist

- Professional Development Workshop (HPM 690)
- Program Orientation and Workshops

Healthcare Administration, Executive Master's Program (M.H.A., Online)

The Executive Master's Program (M.H.A.) provides graduate-level education to employed public health professionals and health care administrators. This program helps students build and expand their decision making and leadership skills to advance their careers in health and public health organizations throughout the United States and beyond. The two-year program consists of six intensive sessions on the Chapel Hill campus as well as faculty-guided, synchronous distance learning. The M.H.A. program is CAHME accredited.

Course Requirements

Code	Title	Hours
Public Health Foundation Courses		
SPHG 600	Introduction to Public Health [1]	3
Core Courses		
HPM 605	Practice Application Journaling I	0.5
HPM 606	Practice Application Journaling II	0.5
HPM 607	Practice Application Journaling III	0.5
HPM 608	Practice Application Journaling IV	0.5
HPM 609	Practice Application Journaling V	0.5
HPM 610	Practice Application Journaling VI	0.5
HPM 671	Statistical Methods for Health Policy and Management	3
HPM 705	Healthcare Management Skills Development Workshop I	0.5
HPM 706	Healthcare Management Skills Development Workshop II	0.5
HPM 710	Health Law	3
HPM 726	Health Care Strategy and Marketing	4
HPM 728	Leadership and Workforce Management Strategies	4
HPM 742	Health Care Finance	3
HPM 743	Health Care Reimbursement	1
HPM 746	Introduction to Financial and Managerial Accounting for Healthcare Organizations	4
HPM 748	Economic Principles, Health Insurance & Behavioral Economics in Health	3
HPM 753	Health Care in the United States: Structure and Policy	4
HPM 776	Healthcare Quality and Information Management	2
HPM 777	Health Information and Quality Applications	2
HPM 779	Operations Research for Healthcare Systems	4
Electives		
One credit of a remote HPM elective required.		1
Thesis/Substitute or Dissertation		
HPM 734	Approaches to Business Plan Development	1
HPM 735	Advanced Concepts and Applications in Health Policy and Management	3
Minimum Hours		**49**

[1] Students without a prior bachelor's or masters degree from an accredited school of public health must take SPHG 600.

Milestones

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 27) for more information.

- Master's Committee
- Master's Oral Exam / Approved Substitute
- Thesis Substitute (Capstone Project)
- Residence Credit
- Exit Survey

Health Policy and Management, Master's Program (M.S.P.H)

The M.S.P.H. is a professional degree that prepares individuals for careers in health policy analysis, health services research, program planning, program evaluation and advocacy at local, state, federal, and international levels. Graduates work in both public and private sector organizations. Students obtain a comprehensive understanding of the health care system and receive in-depth training in health policy analysis, health services research methods, evaluation, and professional development. Students are encouraged to take elective courses in particular areas of interest.

Course Requirements

Code	Title	Hours
Core Courses		
HPM 601	Issues in Health Care	1
HPM 701	Professional Training I [1]	1
HPM 702	Professional Training II [1]	1
HPM 703	Professional Training III [1]	1
HPM 715	Health Economics for Policy and Management	3
HPM 754	Health Care in the United States Structure and Policy	3
HPM 770	Operations Research for Healthcare Systems	3
HPM 772	Techniques for the Economic Evaluation of Health Care [2]	3
HPM 789	Master's Paper Development	2
HPM 880	Principles of Health Policy Research Methods	3
HPM 881	Linear Regression Models	3
HPM 884	Overview of Health Services Research/Health Policy [3]	3
HPM 793	Health Policy and Management Internship	2
SPHG 711	Data Analysis for Public Health	2
SPHG 712	Methods and Measures for Public Health Practice	2
SPHG 713	Systems Approaches to Understanding Public Health Issues	2
SPHG 721	Public Health Solutions: Systems, Policy and Advocacy	2

SPHG 722	Developing, Implementing, and Evaluating Public Health Solutions	4
Electives		
19 total graduate-level elective credit hours required. Selected in consultation with Faculty Mentor.		19
Thesis/Substitute or Dissertation		
HPM 992	Master's (Non-Thesis)	3
Minimum Hours		**60**

1 These 1-credit courses do not count towards the 60 hours needed to graduate.
2 Prerequisite: HPM 770 Introduction to Operations Research for Healthcare Systems.
3 Alternative program evaluation courses can be taken (e.g. HBEH 752).

Milestones

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 27) for more information.

- Master's Committee
- Master's Oral Exam / Approved Substitute (Master's Paper Presentation)
- Thesis Substitute (Master's Paper)
- Residence Credit
- Exit Survey

Recommended Checklist

- Professional Development Workshops (HPM 690)
- Program Orientation and Workshops

Public Health, Master's Program (M.P.H.) — Health Policy Concentration

The Health Policy concentration (https://sph.unc.edu/resource-pages/master-of-public-health-2/health-policy-concentration/) trains future leaders in policy making and practice so they can produce cutting-edge analyses that address the complex challenges of health care delivery. Students learn the skills to design, implement, and evaluate health care and public health policies in a variety of settings, from government agencies to nonprofit spaces, and to advocate for and lead changes in a policy setting. Graduates can demonstrate an intricate understanding of the current U.S. health care system, have expertise in analysis and advocacy, and possess the skills to effectively manage financial and human resources.

Are you unsure of what Health Policy Master's degree best fits your future goals? Please visit our website (https://sph.unc.edu/hpm/which-degree-is-right-for-you/) where you can compare the department's master's degrees.

Course Requirements

Code	Title	Hours
M.P.H. Integrated Core		
SPHG 711	Data Analysis for Public Health	2
SPHG 712	Methods and Measures for Public Health Practice	2
SPHG 713	Systems Approaches to Understanding Public Health Issues	2
SPHG 701	Leading from the Inside-Out	2
SPHG 721	Public Health Solutions: Systems, Policy and Advocacy	2
SPHG 722	Developing, Implementing, and Evaluating Public Health Solutions (MPH Comprehensive Exam administered in class)	4
M.P.H. Practicum		
SPHG 703	MPH Pre-Practicum Assignments	0.5
SPHG 707	MPH Post-Practicum Assignments	0.5
M.P.H. Concentration		
HPM 754	Health Care in the United States Structure and Policy	3
HPM 745	Financial Management and Analysis for Public and Nonprofit Entities	3
HPM 790	Advanced Health Policy Analysis and Advocacy	3
HPM 730	Leadership and Workforce Management Strategies	3
HPM 758	Underserved Populations and Health Reform	3
M.P.H. Electives		
Electives (Graduate-level courses, 400+ level at Gillings, 500+ level at UNC)		9
M.P.H. Culminating Experience		
HPM 992	Master's (Non-Thesis)	3
Minimum Hours		**42**

Admissions

Please visit Applying to the Gillings School (https://sph.unc.edu/students/how-to-apply/) first for details and information. Application to the residential M.P.H. is a 2-step process. Please apply separately to (1) SOPHAS and (2) UNC—Chapel Hill (via the Graduate School application link that will be sent after completing the SOPHAS application). Visit the Graduate School Web site (https://gradschool.sites.unc.edu/master-of-public-health/) for more details. If you are interested in the online M.P.H., please visit the MPH@UNC (https://onlinemph.unc.edu/) website and fill out an inquiry form.

Milestones

- Master's Committee
- Master's Written Examination/Approved Substitute (Comprehensive Exam)
- Thesis Substitute (Culminating Experience)
- Residence Credit
- Exit Survey
- Master's Professional Work Experience (Practicum)

Health Policy and Management, Doctoral Program (Ph.D.)

The doctor of philosophy in health policy and management combines rigorous training in research methodology with substantive knowledge to provide the academic foundation and research experience to become creative and independent researchers.

Course Requirements

Code	Title	Hours
SPH/HPM Foundational Courses [1]		
EPID 600	Principles of Epidemiology for Public Health	
or EPID 710	Fundamentals of Epidemiology	

HPM 754	Health Care in the United States Structure and Policy	
SPHG 600	Introduction to Public Health [2]	
HSR/HSR Methods		
HPM 884	Overview of Health Services Research/Health Policy	3
HPM 885	Health Services/Health Policy Research Methods	3
HPM 886	Advanced Health Services Research Methods Applications	3
Analytical Methods		
HPM 880	Principles of Health Policy Research Methods	3
HPM 881	Linear Regression Models	3
HPM 882	Advanced Methodology in Health Policy and Management	3
HPM 883	Analysis of Categorical Data	3
Concentration Area		
All students must take 15 credit hours for their concentration area (typically five 3-credit courses), see lists below		15
Policy Course		
All students must take one 3-credit hour policy course chosen from the following list:		3
HPM 718	Mental Health Services Research and Policy	
HPM 757	Health Reform: Political Dynamics and Policy Dilemmas	
HPM 758	Underserved Populations and Health Reform	
HPM 766	Making Equity a Priority in Health Care Quality: Strategies for Research, Policy and Practice	
HPM 790	Advanced Health Policy Analysis and Advocacy	
HBEH 775	Introduction to Public Health Policy and The Policy-Making Process	
PLCY 760	Migration and Health	
PLCY 817	Institutional Analysis for Public Policy	
DPOP 806	Pharmaceutical Policy	
Professional Development		
HPM 871	Seminar in Teaching Health Policy and Management	1
HPM 873	Policy Seminar in Health Policy and Management (Must be completed twice)	2
HPM 874	Advanced Research Seminar in HPM (Must be completed four times)	4
Dissertation Hours		
HPM 994	Doctoral Research and Dissertation (Minimum two semesters and 6 credits total) [3]	
Minimum Hours		**46**

[1] Credit hours for these courses (EPID 600/EPID 710, HPM 754, SPHG 600) do not count towards minimum degree hours.

[2] Students with a prior public health degree are not required to take SPHG 600; exemptions are available for those with non-public health degrees from accredited SPHs. Students should discuss with their Academic Coordinator.

[3] Students register for HPM 994 under the section number for the course instructor during the fall semester of their third year. Because this course is considered part of the dissertation, this course does not count towards the 46 hours required for graduation. Starting in the spring of their third year, students should enroll in HPM 994 using their faculty mentor's section number for all subsequent semesters until they defend their dissertation.

Concentration areas may be either disciplinary or interdisciplinary, but are not specific topics or diseases (e.g., aging, AIDS, child health). Students who want to concentrate in areas other than those described below must get approval from the director of the Ph.D. program. Students must register for at least 15 credit hours in their concentration area, and at least one of these 3-credit hour courses must be a theory course.

Decision Sciences and Outcomes Research

Code	Title	Hours
Core Courses		
HPM 772	Techniques for the Economic Evaluation of Health Care	3
HPM 794	Patient-Reported Outcomes Measurement and Application in Healthcare Research and Practice	3
Three additional courses from one of the two tracks described below.		9
Track 1: Decision Sciences Modeling		
HPM 770	Operations Research for Healthcare Systems	
HPM 785	Advanced Decision Modeling	
One theory course chosen from the following list:		
DPOP 803	Social and Behavioral Aspects of Pharmaceutical Use	
HPM 767	Implementation Science in Health	
SOCI 700	History of Social Thought	
PLCY 888	Advanced Economic Analysis for Public Policy I	
BUSI 851	Individual Behavior in Organizations	
Track 2: Outcomes Research		
At least one theory course chosen from the following list:		
HBEH 715	Communication for Health-Related Decision Making	
HBEH 749	mHealth for Behavior Change	
HBEH 763	Scale Development Methods	
PSYC 859	Seminar in Quantitative Psychology	
HPM 767	Implementation Science in Health	
HPM 765	Cancer Prevention and Control Seminar	
MHCH 728	Introduction to Implementation Research and Practice in Maternal, Child and Family Health	
MHCH 859	Proposal Development for Maternal and Child Health	
NURS 957	From Theory to Intervention and Implementation	
Additional elective courses chosen from:		
HPM 565	Global Health Law & Policy	
HPM 620	Implementing Health Informatics Initiatives for Emerging Leaders	
HPM 749	Data Visualization	
HPM 760	Healthcare Quality and Information Management	
HPM 762	Quality of Care	
HPM 766	Making Equity a Priority in Health Care Quality: Strategies for Research, Policy and Practice	
HPM 769	Cancer Outcomes Research Seminar	
Additional course selected in consultation with faculty mentor		
Total Hours		**15**

Economics

Code	Title	Hours
Requirements		
Microeconomic theory courses from one of the following options:		6
ECON 700 & ECON 710	Basic Quantitative Techniques and Advanced Microeconomic Theory I [1]	
PLCY 800 & PLCY 888 & PLCY 889	Mathematical Preparation for Public Policy and Economics and Advanced Economic Analysis for Public Policy I and Advanced Economic Analysis for Public Policy II [1]	
One course in health economics:		3
ECON 850	Health Economics	
ECON 852	Health Economics: Markets and Supply-Side Actors	
Remaining courses selected in consultation with your faculty mentor from other courses taken at UNC-Chapel Hill, Duke, or NC State in advanced microeconomics, labor economics, public finance, economics and population, econometrics, or other advanced topics in microeconomics.		6
All health economics students are expected to attend the Triangle Health Economics Workshop each semester. [2]		
Total Hours		**15**

[1] ECON 710 and PLCY 888 fulfill the theory course requirement.

[2] Students may receive one unit of credit for participating in the Triangle Health Economics Workshop (http://thew.web.unc.edu/) seminars each semester by enrolling in HPM 815, for up to 3 units of credit towards the concentration (but are expected to participate whether or not they receive credit).

Financial Management

In order to assure adequate preparation for these courses, students admitted to the healthcare financial management concentration usually have completed courses in finance, microeconomics, and calculus.

Code	Title	Hours
Requirements		
PLCY 800	Mathematical Preparation for Public Policy and Economics	3
PLCY 888	Advanced Economic Analysis for Public Policy I [1]	3
BUSI 881	Corporate Finance	3
In consultation with your faculty mentor, select two more accounting and/or finance courses offered by the Kenan-Flagler School of Business or the Fuqua School of Business at Duke University		6
Total Hours		**15**

[1] Satisfies the theory requirement.

Health Politics and Policy

The health politics and policy concentration introduces students to theories and practices of policymaking, policy analysis, and political science, with the goal of understanding how and why governments and private institutions create and change health policy. Students explore a wide range of issues in health politics and policy, including health care reform, evaluation of public programs, and developments in private insurance. Students are encouraged to concentrate their coursework on political behavior, public opinion, political communication, political psychology, or other aspects of political science that particularly affect health policy.

Code	Title	Hours
Requirements		
At least 15 credit hours from courses selected in consultation with your faculty mentor.		15
At least one three-credit hour course must be a theory course.		
Total Hours		**15**

Quality and Access

Access to, and the quality of, health care in the United States are often the focus of important health policy discussions at the local, state, and national levels. The concentration in Quality and Access is an interdisciplinary program that prepares Ph.D. students to obtain the substantive, methodological, and statistical skills required to conduct research in this area.

Code	Title	Hours
Requirements		
HPM 762	Quality of Care	3
HPM 766	Making Equity a Priority in Health Care Quality: Strategies for Research, Policy and Practice [1]	3
Three additional courses approved by your faculty mentor, which may include:		9
HPM 767	Implementation Science in Health	
HPM 772	Techniques for the Economic Evaluation of Health Care	
HPM 785	Advanced Decision Modeling	
HPM 794	Patient-Reported Outcomes Measurement and Application in Healthcare Research and Practice	
Total Hours		**15**

[1] Satisfies the theory requirement.

Organization and Implementation Science

The fields of organizational theory and behavior and implementation science are complementary because implementation of evidence-based health interventions frequently occurs within health organizations, and efforts to change practice patterns frequently focus on organizational members. The organization and implementation science concentration equips doctoral students with the knowledge and skills necessary to obtain faculty positions in health care organization and management and/or implementation science.

Code	Title	Hours
Requirements		
One implementation course chosen from the following options:		3
HPM 767	Implementation Science in Health	
MHCH 729	Implementation Science for Global Maternal and Child Health	
PUBH 718	Systems and Design Thinking for Public Health Leaders	
Or another course selected in consultation with your faculty mentor		
One organizational theory course chosen from the following options:		3
NURS 928	Organizational Theories [1]	

BUSI 851	Individual Behavior in Organizations [1]	
BUSI 852	Interpersonal and Intergroup Behavior in Business Organizations [1]	
BUSI 853	Macro Organizational Behavior [1]	
Or another course selected in consultation with your faculty mentor		
Three additional courses approved by the student's advisor		9
Total Hours		**15**

[1] Satisfies the theory requirement.

Milestones

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 27) for more information.

- Doctoral Committee
- Doctoral Oral Comprehensive Exam
- Doctoral Written Exam
- Prospectus Oral Exam
- ABD/Advanced to Candidacy
- Dissertation Defense
- Doctoral Dissertation Approved/Format Accepted
- Residence Credit
- Exit Survey

Recommended Checklist

- Individual Development Plan

Public Health Executive Leadership, Doctoral Program (Dr.P.H.)

The doctor of public health provides professional training to prepare students to participate in and lead evidence-based practice and generate practice-based evidence; lead and effect change across systems, disciplines, professions, and sectors; analyze, develop, implement, and evaluate policies, programs, and services that promote health and communicate and promote public health as a common good. Graduates typically are employed by operating community or public health programs at the local, state, national, or international level. A program of study leading to the Dr.P.H. degree is offered by the Department of Health Policy and Management (synchronous online learning and periodic in-residence weeks format).

Course Requirements

Code	Title	Hours
Core Courses		
Prerequisite		
SPHG 600	Introduction to Public Health [1]	3
Year 1 Fall		
HPM 970	Training and Pedagogy for Health Leaders	1
HPM 810	Leadership in Public Health Law and Ethics	2
HPM 820	Organizational Leadership Theory and Practice	2
HPM 860	Population Perspectives for Health and the Research Process	2
Year 1 Spring		
HPM 951	Literature Reviews and Appraisal	2
HPM 953	Essentials of Practice Based Research	2
HPM 965	Cultural Humility for 21st Century Health Leaders	1
HPM 966	Systems Thinking and Collective Impact	1
Year 1 Summer		
HPM 823	Global Health	1
HPM 945	Dissertation Planning and Preparation	2
HPM 963	Program Evaluation for Health Leaders	2
HPM 969	Program Planning and Design	1
Year 2 Fall		
HPM 956	Fundamentals of Research Methods and Analysis	3
HPM 958	Financial Leadership	3
HPM 964	Leadership for Effective Implementation	1
Year 2 Spring		
HPM 759	Health Policy Analysis and Advocacy for Health Leaders	2
HPM 959	Strategic Planning for Public and Non-Profit Organizations	2
HPM 967	Quality Improvement	1
HPM 968	Managing the Healthcare Workforce	1
Year 2 Summer		
HPM 940	Leadership in Health Informatics	1
HPM 957	Crisis Leadership	1
HPM 962	Communicating for Public Health Impact	2
Year 3 & 4		
HPM 994	Doctoral Research and Dissertation (Two semesters for 6 credits total)	6
Minimum Hours		**42**

[1] Students with a prior public health degree are not required to take SPHG 600; exemptions are available for those with non-public health degrees from accredited SPHs. Students should discuss with their Academic Coordinator.

Milestones

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 27) for more information.

- Doctoral Committee
- Doctoral Oral Comprehensive Exam
- Doctoral Written Exam
- Prospectus Oral Exam
- ABD/Advanced to Candidacy
- Dissertation Defense
- Doctoral Dissertation Approved/Format Accepted

- Residence Credit
- Exit Survey
- Doctoral Professional Work Experience (Practicum)
- Doctoral Practicum Paper (Practicum Paper)
- Doctoral Reflection Paper (Leadership Paper)

Certificate Program in Community Preparedness and Disaster Management

The professional certificate program in community preparedness and disaster management is designed to provide students, as well as community leaders in emergency services (fire, law enforcement, EMS, 911 communications), public health, emergency management, health services, veterinary services, and all who prepare for and respond to disasters, with the opportunity to enhance their knowledge of disaster management systems used to combat natural and man-made disasters, including terrorism. The certificate consists of three courses (nine credit hours) that are all completed online. The courses can be used for undergraduate and graduate degree programs as elective hours. Students may take just one course or opt for all three. The certificate can be earned by executive and graduate students only. Undergraduate students are restricted from earning the certificate denotation.

HPM

Advanced Undergraduate and Graduate-level Courses

HPM 420. Community and Public Health Security: Disasters, Terrorism, and Emergency Management. 3 Credits.
This course examines systems for emergency management at federal, state, and local levels. The roles of emergency management, health services, and public health in disaster management are also reviewed. Every other week, evening online sessions required with instructors.

Rules & Requirements
Grading Status: Letter grade.

HPM 422. Emergency Management I: Analytic Methods. 3 Credits.
Introduction of analytical tools to assess, evaluate, map, and investigate disasters (including biological outbreaks). These tools will be used to improve planning and evaluation of disaster management programs. Every other week, evening online sessions required with instructors.

Rules & Requirements
Grading Status: Letter grade.

HPM 423. Emergency Management II: Disaster Management. 3 Credits.
Explores issues of preparedness, response, recovery, mitigation, and research in disaster management. Students will participate in evacuation decision making, volunteer management, and the development of a disaster exercise. Every other week, evening online sessions required with instructors.

Rules & Requirements
Grading Status: Letter grade.

HPM 472. Program Evaluation. 3 Credits.
Concepts and methods of the program evaluation paradigm as applied in health administration.

Rules & Requirements
Grading Status: Letter grade.

HPM 496. Readings in Health Policy and Management. 0.5-3 Credits.
Directed readings or research. Written reports are required.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

HPM 501. HPM BSPH Professional Development Seminar. 1 Credits.
This course exposes students to different career paths in the field of Health Policy and Management and helps students develop knowledge and skills needed to effectively compete for internships and post-graduation jobs. HPM BSPH majors only. Previously offered as HPM 301.

Rules & Requirements
Requisites: Pre- or corequisite, HPM 502.
Grading Status: Letter grade.

HPM 502. Introduction to the U.S. Health System I. 3 Credits.
HPM 502 and 503 provide an overview of the United States health system. HPM 502 examines the performance, organization, management, and financing of the U.S. health system and the resources required to provide health services. Previously offered as HPM 350.

Rules & Requirements
Grading Status: Letter grade.

HPM 503. Introduction to the U.S. Health System II. 3 Credits.
HPM 503, in conjunction with HPM 502, provides an overview of the United States health system. HPM 503 examines the delivery of health services and approaches to strengthening the performance of the U.S. health system. HPM BSPH Majors Only. Previously offered as HPM 352.

Rules & Requirements
IDEAs in Action Gen Ed: COMMBEYOND.
Requisites: Prerequisite, HPM 502.
Grading Status: Letter grade.

HPM 510. Introduction to Health Law and Ethics. 3 Credits.
An introduction to law and ethics in public health and healthcare organizations. HPM BSPH Majors Only. Previously offered as HPM 310.

Rules & Requirements
IDEAs in Action Gen Ed: FC-VALUES.
Requisites: Prerequisite, HPM 502.
Grading Status: Letter grade.

HPM 520. Introduction to Strategic Planning and Marketing in Health Care. 3 Credits.
An introduction to the development and implementation of strategic planning and marketing processes in health care organizations. Previously offered as HPM 320.

Rules & Requirements
Requisites: Prerequisite, HPM 502.
Grading Status: Letter grade.

HPM 530. Introduction to Health Organization Leadership, Management, and Behavior. 3 Credits.
Students develop skills in leadership and management and apply these skills to public health and health care cases and a team-based community project. Previously offered as HPM 330.

Rules & Requirements
Requisites: Prerequisite, HPM 502.
Grading Status: Letter grade.

HPM 540. Foundations of Health Care Financial Management. 3 Credits.
Basic methods and techniques in financial management of health care programs, including financial statement analysis, cost determination and allocation, pricing of services, and budgeting. Previously offered as HPM 340.

Rules & Requirements
Requisites: Prerequisite, HPM 502.
Grading Status: Letter grade.

HPM 541. Information Systems, Technology, and Tools in Health Care. 3 Credits.
This course examines information systems and technology in health care. Students also learn how to use MS Excel and MS Access. Previously offered as HPM 341.

Rules & Requirements
Requisites: Corequisite, HPM 502.
Grading Status: Letter grade.

HPM 570. Politics, Public Health, and Health Policy. 3 Credits.
This course explores the politics of public health and health care policy in the United States, with a focus on current issues and controversies. Previously offered as HPM 351.

Rules & Requirements
Requisites: Prerequisite, HPM 502.
Grading Status: Letter grade.

HPM 593. Internship in Health Policy and Management. 2 Credits.
A 320-hour internship in a health-related organization. The internship provides students an opportunity to apply the knowledge and skills they are learning in the classroom, gain valuable experience and explore career interests. Previously offered as HPM 393. Restricted to HPM B.S.P.H. students.

Rules & Requirements
IDEAs in Action Gen Ed: HI-INTERN.
Requisites: Prerequisite, HPM 502.
Grading Status: Letter grade.

HPM 600. Introduction to Health Policy and Management. 3 Credits.
This course provides an overview of the United States health care system. Students will explore the system's organization, financing, management, resources, and performance. For each topic, they will analyze relevant legislation and discuss current issues. Students will develop skills in policy research and analysis, health care system evaluation, and basic financial literacy.

Rules & Requirements
Grading Status: Letter grade.

HPM 601. Issues in Health Care. 1 Credits.
Lectures on current topics in health care.

Rules & Requirements
Grading Status: Letter grade.

HPM 602. Concurrent Practice. 1-3 Credits.
Permission of the program director. Supervised activities in an approved health organization, to include one or more specific projects, approved by HPM faculty member and directed by an approved preceptor/mentor in the organization.

Rules & Requirements
Grading Status: Letter grade.

HPM 605. Practice Application Journaling I. 0.5 Credits.
This course is the first of six field-based Journal Practica in which students monitor their learning processes, identify where knowledge and skills learned in courses are helpful and relevant to areas of their professional responsibility, and apply that knowledge and those skills to actual work situations.

Rules & Requirements
Repeat Rules: May be repeated for credit. 1 total credits. 2 total completions.
Grading Status: Letter grade.

HPM 606. Practice Application Journaling II. 0.5 Credits.
This course is the second of six field-based journal practica in which students monitor their learning processes, identify where knowledge and skills learned in courses are helpful and relevant to areas of their professional responsibility, and apply that knowledge and those skills to actual work situations.

Rules & Requirements
Requisites: Prerequisite, HPM 605.
Repeat Rules: May be repeated for credit. 1 total credits. 2 total completions.
Grading Status: Letter grade.

HPM 607. Practice Application Journaling III. 0.5 Credits.
This course is the third of six field-based journal practica in which students monitor their learning processes, identify where knowledge and skills learned in courses are helpful and relevant to areas of their professional responsibility, and apply that knowledge and those skills to actual work situations.

Rules & Requirements
Repeat Rules: May be repeated for credit. 1 total credits. 2 total completions.
Grading Status: Letter grade.

HPM 608. Practice Application Journaling IV. 0.5 Credits.
This course is the fourth of six field-based journal practica in which students monitor their learning processes, identify where knowledge and skills learned in courses are helpful and relevant to areas of their professional responsibility, and apply that knowledge and those skills to actual work situations.

Rules & Requirements
Repeat Rules: May be repeated for credit. 1 total credits. 2 total completions.
Grading Status: Letter grade.

HPM 609. Practice Application Journaling V. 0.5 Credits.
This course is the fifth of six field-based journal practica in which students monitor their learning processes, identify where knowledge and skills learned in courses are helpful and relevant to areas of their professional responsibility, and apply that knowledge and those skills to actual work situations.

Rules & Requirements
Repeat Rules: May be repeated for credit. 1 total credits. 2 total completions.
Grading Status: Letter grade.

HPM 610. Practice Application Journaling VI. 0.5 Credits.
This course is the sixth and final of six field-based journal practica in which students monitor their learning processes, identify where knowledge and skills learned in courses are helpful and relevant to areas of their professional responsibility, and apply that knowledge and those skills to actual work situations.

Rules & Requirements
Repeat Rules: May be repeated for credit. 1 total credits. 2 total completions.
Grading Status: Letter grade.

HPM 620. Implementing Health Informatics Initiatives. 3 Credits.
Focuses on implementing informatics programs and projects in health organizations. Informatics initiatives aim to facilitate effective information use for the purpose of improving the quality of health services and/or efficiency of processes. Therefore, these initiatives have implications for various stakeholder groups, including consumers, practitioners, administrators, and policy makers.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

HPM 630. IHI Course in Healthcare Quality Improvement. 1.5 Credits.
The IHI Certificate demonstrates an investment in further education and a strong knowledge base in quality improvement. Upon completion of this course, students will have met the requirements for the IHI Open School Certificate and participated in two in-person sessions.

Rules & Requirements
Grading Status: Letter grade.

HPM 660. International and Comparative Health Systems. 3 Credits.
Methods of comparing health systems, examinations of related national health systems, and analysis of related high prevalence health issues.

Rules & Requirements
Grading Status: Letter grade.

HPM 661. Global Health Law & Policy. 3 Credits.
Coursework will focus on public policy approaches to global health, employing interdisciplinary methodologies to understand selected public health policies, programs, and interventions. For students who have a basic understanding of public health. Course previously offered as PLCY/HPM 565.

Rules & Requirements
Grading Status: Letter grade.
Same as: PLCY 661.

HPM 662. Global Health and Human Rights. 3 Credits.
Course focuses on rights-based approaches to health, applying a human rights perspective to selected public health policies, programs, and interventions. Students will apply a formalistic human rights framework to critical public health issues, exploring human rights as both a safeguard against harm and a catalyst for health promotion. Course previously offered as PLCY 570/HPM 571.

Rules & Requirements
Grading Status: Letter grade.
Same as: PLCY 662.

HPM 664. Globalization and Health. 3 Credits.
Globalization--its economic, environmental, political, technological, institutional, and sociocultural dimensions--historically and currently contributes to beneficial and adverse effects on population, community, and family and individual health.

Rules & Requirements
Grading Status: Letter grade.
Same as: MHCH 664.

HPM 671. Statistical Methods for Health Policy and Management. 3 Credits.
Introduction to statistical analysis for healthcare settings using an Excel framework. Topics include variable types, sampling, probability distributions, descriptive statistics, hypothesis testing, categorical data analysis, ANOVA, and introduction to regression methods. Previously offered as HPM 470.

Rules & Requirements
Grading Status: Letter grade.

HPM 690. Special Topics in Health Policy and Management. 0.5-3 Credits.
Special topics course for health policy and management undergraduate students.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 3 total credits. 2 total completions.
Grading Status: Letter grade.

HPM 691H. Honors Research I. 3 Credits.
Students design a research project, known as the Honors Thesis. Students write a research proposal and complete an IRB application toward partial completion of the thesis. Requires a UNC-approved cumulative GPA by the end of the junior year and permission of the instructor.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Requisites: Prerequisite, HPM 350.
Grading Status: Letter grade.

HPM 692H. Honors Research II. 3 Credits.
Students complete, write up and present the Honors Thesis research project that they designed in HPM 691H. Requires having maintained the UNC-approved cumulative GPA by the end of the senior fall semester and permission of the instructor.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Requisites: Prerequisites, HPM 691H and 350.
Grading Status: Letter grade.

HPM 696. Research in Health Policy and Management. 1-3 Credits.
This course is for health policy and management undergraduate or graduate students who wish to pursue applied research or practice opportunities with healthcare organizations under the supervision of a faculty member in the Department of Health Policy and Management.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 6 total completions.
Grading Status: Letter grade.

HPM 697. Health Policy and Management BSPH Capstone. 3 Credits.
The capstone course serves as a culminating experience for students in the BSPH program in Health Policy and Management. Students integrate and apply the knowledge and skills they have learned across the program. Students work in teams to complete a major project with a local organization -- such as a hospital, health system, governmental health department, non-profit, or global health organization. Restricted to HPM B.S.P.H. students.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Requisites: Prerequisites, HPM 330 and HPM 350.
Grading Status: Letter grade.

Graduate-level Courses

HPM 701. Professional Training I. 1 Credits.
Restricted to HPM majors. Supervised professional training (fee is $550).

Rules & Requirements
Grading Status: Letter grade.

HPM 702. Professional Training II. 1 Credits.
Restricted to HPM majors. Supervised professional training (fee is $500).

Rules & Requirements
Grading Status: Letter grade.

HPM 703. Professional Training III. 1-15 Credits.
Restricted to HPM majors. Supervised professional training (fee is $500).

Rules & Requirements
Grading Status: Letter grade.

HPM 705. Healthcare Management Skills Development Workshop I. 0.5 Credits.
This course is the first of two workshops for students in the Executive Master's Program. These workshops are designed to provide students exposure to key cross cutting skills that will be used in the program. These skills also are essential for effective healthcare management.

Rules & Requirements
Grading Status: Letter grade.

HPM 706. Healthcare Management Skills Development Workshop II. 0.5 Credits.
This course is the second of two workshops for students in the Executive Master's Program. These workshops are designed to provide students exposure to key cross cutting skills that will be used in the program. These skills also are essential for effective healthcare management.

Rules & Requirements
Requisites: Prerequisite, HPM 705.
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

HPM 710. Health Law. 3 Credits.
An introduction to law and the legal system as it relates to the delivery and financing of health care.

Rules & Requirements
Grading Status: Letter grade.

HPM 713. Hospital Functions and Operations. 2 Credits.
This course provides exposure to the knowledge and skills required to solve the most pressing operational problems found across departments within today's complex health care institutions.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

HPM 714. Advanced Spreadsheet Modeling for Business. 3 Credits.
This course focuses on using advanced features of Microsoft Excel to create efficient spreadsheet models of common and complex business problems. It challenges students to use critical thinking and analysis to find effective solutions to real-life situations.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

HPM 715. Health Economics for Policy and Management. 3 Credits.
Permission of the instructor for nonmajors. Provides training in the theory of health economics and applies this theory to important issues in health policy and management.

Rules & Requirements
Requisites: Prerequisite, BIOS 600.
Grading Status: Letter grade.

HPM 718. Mental Health Services Research and Policy. 3 Credits.
This course is an introduction to mental health services research and policy. Topics include the financing of mental health services, supply of services, quality measures, assessing need, and barriers to care. The course includes seminar presentations by local and nationally recognized experts in mental health services research and discussion sessions.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

HPM 720. Management of Human Resources in Health Organizations. 3 Credits.
Emphasis is on clarifying concepts of human resources management and identifying the importance of human resources in health organizations.

Rules & Requirements
Requisites: Prerequisite, HPM 730; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

HPM 725. Health Care Strategy and Marketing. 3 Credits.
This course introduces students to strategic planning and marketing in health services organizations. Students develop practical skills such as assessing the internal and external environment, competitor analysis, and evaluating strategic alternatives in different health care settings. It also explores the role the governing board plays in strategy development and management.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

HPM 726. Health Care Strategy and Marketing. 4 Credits.
This course introduces students to strategic planning and marketing in health services organizations. Students develop practical skills such as assessing the internal and external environment, competitor analysis, and evaluating strategic alternatives in different health care settings. It also explores the role the governing board plays in strategy development and management.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

HPM 728. Leadership and Workforce Management Strategies. 4 Credits.
This course provides an introduction and overview to leadership, management, human resources and organizational behavior, with the goal of aligning these with the organization's strategy and mission. The course integrates theory with practice through readings, lectures, written assignments, and guest presentations from different organizational perspectives. Assessment, practice and development of leadership, managerial and organizational skills will be accomplished through team exercises and small group work.

Rules & Requirements
Grading Status: Letter grade.

HPM 730. Leadership and Workforce Management Strategies. 3 Credits.
This course provides an introduction and overview of leadership, management, workforce challenges, and organizational behavior. The course emphasizes the importance of aligning management practices with the organization's mission and goals. The course integrates theory with practice through readings, lectures, written assignments, experiential exercises, and guest presentations. Assessment, practice and development of leadership, managerial and organizational skills are accomplished through team exercises, self and peer assessments, and small group work.

Rules & Requirements
Grading Status: Letter grade.

HPM 734. Approaches to Business Plan Development. 1 Credits.
Approaches to Business Plan Development ('Capstone Prep') is a one-credit course to introduce and jumpstart the Spring Semester Capstone business plan process necessary for HPM 735.

Rules & Requirements
Grading Status: Letter grade.

HPM 735. Advanced Concepts and Applications in Health Policy and Management. 3 Credits.
Required preparation, completion of master's core (can be concurrent). Restricted to HPM graduate students. Integrating and building upon the HPM master's core, this comprehensive course focuses on organization policymaking and administration from the perspective of the CEO and top management.

Rules & Requirements
Requisites: Prerequisite, HPM 734.
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

HPM 740. Health Care Financial Accounting. 2 Credits.
This introduces concepts of financial accounting to the non-accountant user of financial information. Basic accounting transactions, financial report preparation, concepts of accrual vs. cash accounting, not-for-profit health care accounting, and the analysis of health care organization financial reports.

Rules & Requirements
Grading Status: Letter grade.

HPM 741. Management Accounting for Health Administrators. 3 Credits.
Permission of the instructor for non-MHA majors. Covers selected topics in managerial accounting applied to health care.

Rules & Requirements
Requisites: Prerequisite, HPM 740; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

HPM 742. Health Care Finance. 3 Credits.
Basic financial management concepts, including time value analysis, financial risk and required return, long-term debt financing, equity financing and securities markets, capital structure and the cost of capital, the basics of capital budgeting, project risk analysis, revenue cycle and current accounts management, and financial condition analysis.

Rules & Requirements
Requisites: Prerequisite, HPM 741 or 746.
Grading Status: Letter grade.

HPM 743. Health Care Reimbursement. 1 Credits.
This online course in health care reimbursement is designed to provide students with relevant and current information about health care reimbursement methods and the complexities around it. After completion of the course, students should have an operational knowledge of health care reimbursement theory and practice.

Rules & Requirements
Grading Status: Letter grade.

HPM 744. Health Care Finance II. 2 Credits.
Focuses on capital allocation, financial condition analysis and forecasting, and other topics. Course is the conclusion to a five-course sequence in healthcare financial management. Each builds on the prior course with the intent of providing a comprehensive foundation in the concepts and practice of healthcare financial management.

Rules & Requirements
Requisites: Prerequisites, HPM 740, 741, 742.
Grading Status: Letter grade.

HPM 745. Financial Management and Analysis for Public and Nonprofit Entities. 3 Credits.
This course teaches financial concepts for students seeking leadership roles in the non-profit and government sector, including business planning, budgeting, accounting, performance management, and resource blending and braiding. Students will develop a business plan and learn key strategies and evaluation tools.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

HPM 746. Introduction to Financial and Managerial Accounting for Healthcare Organizations. 4 Credits.
Focuses on learning and applying key financial and managerial accounting tools and concepts to healthcare problems. Provides a broad introduction to key concepts, issues, tools, and vocabulary useful for policymakers and administrators. Topics include: reading and analyzing healthcare financial statements, recording transactions, budgeting, full costing, incremental costing, and responsibility accounting.

Rules & Requirements
Repeat Rules: May be repeated for credit. 8 total credits. 2 total completions.
Grading Status: Letter grade.

HPM 747. Health Care Finance. 4 Credits.
The course focuses on financial management and analysis. The course includes the healthcare environment, basic financial management concepts, capital acquisition, cost of capital and capital structure, and capital allocation. After completion of the course, students should be able to apply financial management concepts in real world healthcare settings.

Rules & Requirements
Requisites: Prerequisite, HPM 746.
Grading Status: Letter grade.

HPM 748. Economic Principles, Health Insurance & Behavioral Economics in Health. 3 Credits.
This course provides students with an opportunity to investigate topics of healthcare policy and insurance from a finance and economics perspective. The course covers contemporary health policy topics in great depth and with a focus on economic and financial analysis as a tool to evaluate healthcare policies and proposed new legislation.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

HPM 749. Data Visualization. 3 Credits.
Introduction to data visualization principles and tools for business professionals. Topics include cognitive processing of visual information, best practices in data visualization, effective data storytelling, data acquisition and preparation, and designing data visualizations using Tableau Desktop software.

Rules & Requirements
Requisites: Prerequisite, BIOS 600 or HPM 671 or SPHG 711 with a grade of P or better; permission of the instructor for non-majors or for students lacking the prerequisite.
Grading Status: Letter grade.

HPM 753. Health Care in the United States: Structure and Policy. 4 Credits.
This core course is designed to provide students with an overview of the structure, systems, and policies of health care delivery in the United States. The goal is to increase students' knowledge and abilities to analyze and address health care issues from both management and policy perspectives.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

HPM 754. Health Care in the United States Structure and Policy. 3 Credits.
This core course is designed to provide students with an overview of the structure, systems, and policies of health care delivery in the United States. The goal is to increase students' knowledge and abilities to analyze and address health care issues from both management and policy perspectives.

Rules & Requirements
Grading Status: Letter grade.

HPM 756. Conceptualizing & Measuring Access to Healthcare. 3 Credits.
This course addresses theoretical and applied approaches to measuring health care access in public health and health services research. Drawing principally from health and medical geography, linking foundational concepts and methods addressing access with health economics and health services research more broadly. Students explore spatial approaches to health and healthcare in place. This course will include reading responses, GIS lab exercises, and a research project addressing health care access. Prior exposure to statistical methods preferred.

Rules & Requirements
Grading Status: Letter grade.

HPM 757. Health Reform: Political Dynamics and Policy Dilemmas. 3 Credits.
This course focuses on the political and policy dynamics of health care reform. We explore why health reform is so difficult to achieve in the U.S., lessons from past reform successes and failures, the dilemmas confronting public and private insurers from rising health care costs, the elusive pursuit of universal health insurance, and lessons from other countries. Our goal is to understand how politics shape health policymaking, the contemporary state of health reform, and possible futures for American health policy, from consumer-driven health care to Medicare for All.

Rules & Requirements
Grading Status: Letter grade.

HPM 758. Underserved Populations and Health Reform. 3 Credits.
This course gives students a greater understanding of programs available to serve underserved populations, and how the ACA (or any replacement) will impact on care provided to underserved populations. The course is designed to help students think critically about the impact of policy changes on different populations.

Rules & Requirements
Grading Status: Letter grade.

HPM 759. Health Policy Analysis and Advocacy for Health Leaders. 2 Credits.
This course will provide students with a hands-on opportunity to learn about the health policy development process. Students will gain an understanding of the different ways in which health policy is made through the legislative, executive, and judicial branches of government, as well as the role of the media and advocates/stakeholder groups in shaping health policy. Students will also gain practical experience designing and implementing a campaign aimed at changing health policy.

Rules & Requirements
Grading Status: Letter grade.

HPM 760. Healthcare Quality and Information Management. 3 Credits.
Integrates essential methods and principles in healthcare quality and information management. Emphasis on use of information to measure and improve quality. Will include presentations, individual/group projects, exercises, and group discussion.

Rules & Requirements
Grading Status: Letter grade.

HPM 762. Quality of Care. 3 Credits.
The quality of health care in the US has garnered significant attention. This course will examine 1) the current state of the quality of care in the US, 2) approaches to assess quality of care, and 3) strategies that have been implemented or proposed to improve the quality of care.

Rules & Requirements
Grading Status: Letter grade.

HPM 764. Caregiving: Research, Practice, & Policy. 3 Credits.
Informal or family caregivers support a family member or friend with a serious health problem, disability, or illness. Caregiving is an essential part of our society and infrastructure worldwide. Understanding informal care within the context of both healthcare delivery and the community is critical for future professionals in healthcare, social services, and health policy. This course will provide an overview of caregiving in the U.S. and globally, models of caregiving, research methods, and caregiving policies.

Rules & Requirements
Grading Status: Letter grade.

HPM 765. Cancer Prevention and Control Seminar. 3 Credits.
An interdisciplinary overview of cancer prevention and control. Emphasis on projects and activities from perspectives of epidemiology, health behavior and education, and health policy and management. Appropriate research design and methodologies are covered.

Rules & Requirements
Grading Status: Letter grade.
Same as: EPID 772, HBEH 765.

HPM 766. Making Equity a Priority in Health Care Quality: Strategies for Research, Policy and Practice. 3 Credits.
This course examines recent work on defining, measuring, and improving health care equity in the contexts of research, policy, and practice. Health care inequities according to race/ethnicity, socioeconomic status, and geography will especially be highlighted.

Rules & Requirements
Grading Status: Letter grade.

HPM 767. Implementation Science in Health. 3 Credits.
This course introduces the concepts, theories, and methods of disseminating and implementing evidence-based health, behavioral health, and social service interventions. The course also examines the methods for conducting rigorous research on dissemination and implementation.

Rules & Requirements
Grading Status: Letter grade.

HPM 769. Cancer Outcomes Research Seminar. 1 Credits.
The Cancer Outcomes Research Program (CORP) offers a weekly seminar for faculty, students, and fellows/trainees interested in multidisciplinary cancer outcomes research. Guest speakers' topics include Quality of Care, Patient-reported Outcomes (PROs), Comparative Effectiveness, Health Informatics, Cancer Disparities, Decision Making, Dissemination/Implementation, and Health Economics, as related to cancer outcomes.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

HPM 770. Operations Research for Healthcare Systems. 3 Credits.
Review of the systems analysis process in healthcare systems. Deterministic and random models, mathematical programming, queueing, simulation, forecasting, and measurement. Emphasis on model formulation and computer solution of decision models.

Rules & Requirements
Grading Status: Letter grade.

HPM 772. Techniques for the Economic Evaluation of Health Care. 3 Credits.
This course provides an investigation of the theory, methods, and application of economic evaluation to health care. Topics include methods used to structure an economic evaluation, measure and summarize health outcomes and estimate their value to patients or to the public, and identify resources used and estimate their costs.

Rules & Requirements
Requisites: Prerequisite, EPID 600.
Grading Status: Letter grade.

HPM 773. Introduction to Program Evaluation in Public Health and Health Care Settings. 3 Credits.
This course is a three-credit hour introduction to program evaluation in public health and health care settings. We discuss key concepts in planning, conducting, reporting, and utilizing evaluations. Through a semester-long project students develop a viable program evaluation design for a real-world program.

Rules & Requirements
Repeat Rules: May be repeated for credit. 3 total credits. 2 total completions.
Grading Status: Letter grade.

HPM 776. Healthcare Quality and Information Management. 2 Credits.
The HPM 776/777 and 776/778 course sequences integrate essential methods and principles in healthcare quality and information management, emphasizing use of information to measure and improve quality.

Rules & Requirements
Repeat Rules: May be repeated for credit. 4 total credits. 2 total completions.
Grading Status: Letter grade.

HPM 777. Health Information and Quality Applications. 2 Credits.
The HPM 776/777 and 776/778 course sequences integrate essential methods and principles in healthcare quality and information management, emphasizing use of information to measure and improve quality.

Rules & Requirements
Repeat Rules: May be repeated for credit. 4 total credits. 2 total completions.
Grading Status: Letter grade.

HPM 779. Operations Research for Healthcare Systems. 4 Credits.
Healthcare administrators face a range of decisions: some strategic, some financial, others operational. Through your program of study, you are developing analytical and conceptual skills that will help you to make better decisions when the time comes.

Rules & Requirements
Repeat Rules: May be repeated for credit. 8 total credits. 2 total completions.
Grading Status: Letter grade.

HPM 780. Pharmaceutical Health Policy. 2 Credits.
Overview of the pharmaceutical industry including organization, financing, major regulations, drug development, and ethical considerations. Topics will give a real-world perspective from professionals in the pharmaceutical industry. Students will debate and discuss some controversial topics related to pharmaceuticals and public health including patient safety, data integrity, financial conflicts of interest, and pricing. These topics will introduce students to careers in the pharmaceutical industry and provide a relevant background for careers in public policy or research.

Rules & Requirements
Grading Status: Letter grade.

HPM 785. Advanced Decision Modeling. 3 Credits.
This course covers advanced decision modeling methods in health care, including probabilistic sensitivity and value of information analysis, economic evaluation using clinical trial data, and discrete event simulation and agent-based/system dynamics modeling techniques. The course teaches analytical techniques and interpretation as well as state-of-the-art best practices.

Rules & Requirements
Requisites: Prerequisite, HPM 772.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

HPM 789. Master's Paper Development. 2 Credits.
Second-year M.S.P.H. students in HPM only. Course supports the year-long master's paper process. Broad topics related to the development and management of a research project are covered. The Master's Paper Proposal Defense at the end of the Fall Semester, and the Final Master's Paper, as approved by the student's First and Second Readers at the end of the Spring Semester, are critical steps to meet the UNC Graduate School's requirements for graduation. M.S.P.H. students only.

Rules & Requirements
Grading Status: Letter grade.

HPM 790. Advanced Health Policy Analysis and Advocacy. 3 Credits.
This class will provide students with an opportunity to learn about the health policy analysis and advocacy processes in the United States. Students will gain an understanding of the different ways in which health policies are made at the legislative, regulatory, and judicial systems. Students will also learn how to identify and analyze different policy options to address health problems, conduct a stakeholders' analysis, and design an advocacy campaign.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

HPM 791. Value Based Payment Policy. 1 Credits.
This course will cover value based models in health care, including accountable care organizations, bundled payments, patient centered medical home models, risk-based contracts, and other related programs. We will cover the goals of these models, what we mean by "value" in health care, how payment arrangements work practically, evidence on the effectiveness of these models for improving quality and efficiency in health care, and the policies addressing value-based payment.

Rules & Requirements
Grading Status: Letter grade.

HPM 792. Clinical Transformations. 1 Credits.
This course seeks to expose students to an array of topics around health care clinical transformation through presentations and discussion with guest speakers from a range of stakeholders, including frontline providers, leaders at health care organizations, and state policymakers.

Rules & Requirements
Grading Status: Letter grade.

HPM 793. Health Policy and Management Internship. 1-2 Credits.
Restricted to HPM majors. Supervised field experience in approved health agencies. (Internship fee: $450.)

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

HPM 794. Patient-Reported Outcomes Measurement and Application in Healthcare Research and Practice. 3 Credits.
Patient-reported outcomes (PROs) include measures of health status, quality of life, and satisfaction with healthcare. This course provides an overview of the PRO measurement and research field, and discusses how to design and evaluate a PRO measure and best practices for integrating PRO in clinical research and healthcare settings.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 6 total credits. 2 total completions.
Grading Status: Letter grade.

HPM 797. Systems Thinking & Collective Impact. 3 Credits.
This course is designed to help you become familiar with and thoughtfully apply a variety of practical, structured, systems thinking approaches to improve population health by changing aspects of care, service delivery systems, policy, and/or environments in which we live and work. We'll use these methods to both understand individuals' experiences as the foundation for driving change as well as to "zoom out" and see the broader system around a population health challenge.

Rules & Requirements
Grading Status: Letter grade.

HPM 810. Leadership in Public Health Law and Ethics. 2 Credits.
Course is designed to provide learners with an introduction and overview of critical issues relating to law, ethics, and public health. DrPH students only.

Rules & Requirements
Grading Status: Letter grade.

HPM 815. Graduate Health Economics Seminar. 1 Credits.
Permission of the instructor. Discussion of recent papers in health economics. Students must have solid knowledge of graduate microeconomics theory and econometrics.

Rules & Requirements
Repeat Rules: May be repeated for credit. 3 total credits. 3 total completions.
Grading Status: Letter grade.

HPM 820. Organizational Leadership Theory and Practice. 2 Credits.
This introductory course will provide an overview of the theoretical framework for the practice of leadership in organizations leading to the application of theory and best practices in your leadership practice. We will also focus on specific leadership topics such as strategic leadership, systems thinking, team leadership, change management and developing others. We believe that you can learn about leadership in a course such as ours, but you can only really learn leadership by practicing it.

Rules & Requirements
Grading Status: Letter grade.

HPM 823. Global Health. 1 Credits.
This course analyzes health systems from a global perspective. Although health systems vary widely in their structure and performance, there is substantial similarity in the issues that they face. The course evaluates health systems through the WHO's health system building blocks and health system performance. This course will include discussion about the U.S. health system as well as the health systems of developing countries, low-income countries, and middle-income countries. This course will identify system elements from different countries that could be used to improve access, quality, efficiency or innovation in the student's home or work country.

Rules & Requirements
Grading Status: Letter grade.

HPM 830. Translational Health Disparities: Research, Practice & Policy. 3 Credits.
This course will focus on the concepts, principles, methods, and applications of health disparities science, practice, and policy. It will integrate principles and practice of community engagement. Experts from diverse disciplines will give lectures on health disparities research, practice, and policy. Student teams will work on real life case studies.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

HPM 860. Population Perspectives for Health and the Research Process. 2 Credits.
This course examines historical and contemporary population health and public health perspectives. These perspectives shape the politics and policy making that affect global health. The practical goal is to help the entering DrPH student develop a grounding for further exploration of topics that may evolve into a dissertation.

Rules & Requirements
Grading Status: Letter grade.

HPM 871. Seminar in Teaching Health Policy and Management. 1 Credits.
Problems and processes of teaching health policy and management, including supervised practicum experience.

Rules & Requirements
Grading Status: Letter grade.

HPM 873. Policy Seminar in Health Policy and Management. 1 Credits.
Seminar on policy issues in health policy and management.

Rules & Requirements
Repeat Rules: May be repeated for credit. 2 total credits. 2 total completions.
Grading Status: Letter grade.

HPM 874. Advanced Research Seminar in HPM. 1 Credits.
This seminar will develop core competencies through a: (1) journal club to develop competencies in research design and expose students to diverse content and methodologies; and (2) professional development series.

Rules & Requirements
Repeat Rules: May be repeated for credit. 4 total credits. 4 total completions.
Grading Status: Letter grade.

HPM 880. Principles of Health Policy Research Methods. 3 Credits.
First course in the department's sequence in empirical analysis. Covers principles of statistical inference, univariate and bivariate analysis, statistical software applications, and mathematical concepts necessary for linear regression and further topics.

Rules & Requirements
Repeat Rules: May be repeated for credit. 3 total credits. 2 total completions.
Grading Status: Letter grade.

HPM 881. Introduction to Applied Methods in Health Services Research. 3 Credits.
Familiarity with Stata or R. Permission of the instructor for students lacking the prerequisites. This course is the first in a sequence of empirical methods courses focused on causal inference. We will begin with linear regression models (i.e., ordinary least squares) and extend to nonlinear, matching, and propensity score approaches. For each approach, the course explores how to test each of the underlying assumptions and how to correct the model when the assumptions fail. We will use Stata and R software.

Rules & Requirements
Requisites: Prerequisite, BIOS 600 or HPM 880.
Grading Status: Letter grade.

HPM 882. Advanced Methodology in Health Services Research. 3 Credits.
Permission of the instructor for students lacking the prerequisites. Students will apply models and statistical techniques to original health services research; understand major techniques used to estimate causal relationships in quasi-experimental designs, including panel data and simultaneous equations models; and gain intuition and skills about the art of econometrics, including techniques for using complex survey data and handling missing data.

Rules & Requirements
Requisites: Prerequisite, HPM 881.
Grading Status: Letter grade.

HPM 883. Applied Methods in Health Services Research. 3 Credits.
This course provides a practical introduction to experimental methods and machine learning techniques with direct applications in health services research. Students will engage in hands-on activities to build practical skills in designing and analyzing experiments -- both small and large scale -- to address causal questions in health services. Additionally, students will apply supervised machine learning approaches to tackle prediction problems relevant to health services research.

Rules & Requirements
Requisites: Prerequisites, HPM 881 and 882; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

HPM 884. Overview of Health Services Research/Health Policy. 3 Credits.
Pre-doctoral standing or permission of the instructor. This course provides an overview of the field of health services research and health policy. It introduces basic components of the research process, including literature synthesis, development of a research question and hypothesis, and use of conceptual models to guide research questions.

Rules & Requirements
Grading Status: Letter grade.

HPM 885. Health Services/Health Policy Research Methods. 3 Credits.
This course explores how to develop answerable, policy-relevant, ethical research questions; operationalize questions with actionable specific aims' and identify optimal research design for answering a particular question. It introduces primary data collection methods (e.g., interviews, focus groups, surveys) and secondary data sources (e.g., administrative claims, medical, records).

Rules & Requirements
Requisites: Prerequisite, HPM 884.
Grading Status: Letter grade.

HPM 886. Advanced Health Services Research Methods Applications. 3 Credits.
This course focuses on applications of research methods that are relevant to health services and health policy researchers. Skills and topics covered in HPM 884 and HPM 885.

Rules & Requirements
Requisites: Prerequisites, HPM 884 and 885.
Grading Status: Letter grade.

HPM 890. Special Topics in HPM. 0.5-3 Credits.
Course reserved for special topics in HPM for graduate-level students only.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 3 total credits. 2 total completions.
Grading Status: Letter grade.

HPM 893. Public Health Informatics Practicum. 2 Credits.
Course will help students: conduct research, develop public health informatics tools/projects, and further develop professional skills and knowledge essential in the public health informatics field. Students will participate in weekly (2 hr) informatics discussions with practicum preceptors and have an opportunity to meet and interact with successful health informatics professionals.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

HPM 940. Leadership in Health Informatics. 1 Credits.
The course offers an overview of health informatics for DrPH students in leadership roles. The course will focus on leading informatics savvy organizations by use of case studies discussed by outside experts as well as students and faculty. The course will rely on active class discussion.

Rules & Requirements
Repeat Rules: May be repeated for credit. 4 total credits. 4 total completions.
Grading Status: Letter grade.

HPM 945. Dissertation Planning and Preparation. 2 Credits.
Part of a sequence to guide students in planning, development, and implementation of Dr.P.H. dissertations. Designed to prepare students to identify appropriate research topics, plan the approach, organize, and write.

Rules & Requirements
Grading Status: Letter grade.

HPM 947. Dissertation Planning and Preparation III. 1 Credits.
The purpose of this course is to build on students' progress on work initiated in HPM 946 and continue to guide students through the steps necessary to complete a dissertation proposal. In collaboration with faculty, learners will assess the current state of their proposals and complete revisions and additional refinements, culminating in dissertations that are ready to be defended by fall of the third year in the program.

Rules & Requirements
Repeat Rules: May be repeated for credit. 2 total credits. 2 total completions.
Grading Status: Letter grade.

HPM 951. Literature Reviews and Appraisal. 2 Credits.
This course is the second in a sequence of courses in research design and methods in the executive Dr.P.H. program. The course explores the nature and process of scientific inquiry in the field of public health, establishing a foundation for methodological exploration, and focusing on the process of developing researchable questions.

Rules & Requirements
Grading Status: Letter grade.

HPM 953. Essentials of Practice Based Research. 2 Credits.
Designed to provide Dr.P.H. students with grounding in basic quantitative and qualitative research techniques used in health services research. Topics include types of research designs, measurement scales and coding nomenclatures, analytical techniques for quantitative data, research techniques for primary data collection, research opportunities with secondary data, and qualitative research methods.

Rules & Requirements
Grading Status: Letter grade.

HPM 956. Fundamentals of Research Methods and Analysis. 3 Credits.
This course will provide students with "hands-on" experience in qualitative, quantitative, and policy analytical techniques. DrPH students only.

Rules & Requirements
Grading Status: Letter grade.

HPM 957. Crisis Leadership. 1 Credits.
Offered exclusively to students in the Executive DrPH program, this course exposes students to the theoretical and practical aspects of organizational crises and prepares them to lead effectively in the midst of crisis situations.

Rules & Requirements
Repeat Rules: May be repeated for credit. 2 total credits. 2 total completions.
Grading Status: Letter grade.

HPM 958. Financial Leadership. 3 Credits.
Dr.P.H. students only. Understand the major concepts of financial oversight, including budgeting, financial statement analysis, internal controls, governance, and the Sarbanes-Oxley Act, and be able to apply them to all organizations, whether public, private, non-profit, or governmental. Utilizing both individual and team-based learning.

Rules & Requirements
Grading Status: Letter grade.

HPM 959. Strategic Planning for Public and Non-Profit Organizations. 2 Credits.
The purpose of this class is to enhance participants' competence in leading within complex and dynamic systems. DrPH students only.

Rules & Requirements
Grading Status: Letter grade.

HPM 962. Communicating for Public Health Impact. 2 Credits.
This course is one of a series of leadership courses in the executive DrPH. Its purpose is to help students to better understand and apply skills and approaches to use a variety of channels to communicate public health science to diverse stakeholders to positively influence health behavior and public health policies.

Rules & Requirements
Grading Status: Letter grade.

HPM 963. Program Evaluation for Health Leaders. 2 Credits.
This is one of a series of research courses in the Executive DrPH. Its purpose is to help students understand the purposes, types, and value of evaluation and how they might use it in their work.

Rules & Requirements
Grading Status: Letter grade.

HPM 964. Leadership for Effective Implementation. 1 Credits.
This class will provide students with an opportunity to learn about implementation science and to understand the complementarity of implementation science and intervention science in improving population outcomes. Students will gain an understanding of the importance of implementation science for addressing public health concerns and the role implementation science can play in bringing public health practice and research closer together. Students will develop an understanding of implementation science frameworks and approaches.

Rules & Requirements
Grading Status: Letter grade.

HPM 965. Cultural Competence for 21st Century Health Leaders. 1 Credits.
We will examine the ways in which culture and cultural competency intersects with health, and how public health efforts can benefit by understanding relationships between culture and health.

Rules & Requirements
Grading Status: Letter grade.

HPM 966. Systems Thinking and Collective Impact. 1 Credits.
This course is designed to help you become familiar with and thoughtfully apply a variety of practical, structured systems thinking approaches to improve care, service delivery systems, policy, and/or environments in which we live. We'll use these methods to both understand individuals' experiences as the foundation for driving change as well as to "zoom out" and see the broader system around a population health challenge.

Rules & Requirements
Grading Status: Letter grade.

HPM 967. Quality Improvement. 1 Credits.
Provides an introduction and overview of quality improvement efforts in health care. Explores the evidence for why quality improvements are needed, measurements of how health care quality is determined as well as how to implement and manage successful quality improvement techniques. DrPH students only.

Rules & Requirements
Grading Status: Letter grade.

HPM 968. Managing the Healthcare Workforce. 1 Credits.
Workforce issues play a central role in virtually all organizational problems and challenges. At times, workforce issues may be the primary cause of a problem, while in other cases, they may be one of several underlying causes. Similarly, it is difficult to identify a solution to an organizational problem that does not involve some aspect of workforce management. DrPH students only.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

HPM 969. Program Planning and Design. 1 Credits.
The course focuses on approaches to planning programs that promote individual and community health. It will enable students to understand the essential steps in the program planning process, needs assessments, establishing goals and objectives, and selecting and developing program strategies. The course offers a unique opportunity for students to design a program that addresses a public health issue of interest and emerging threats in global health. Students will apply their experiences and evidence to develop a program based on a topic identified in the preceding Systems Thinking course, HPM 966, or any other area they would like to consider.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

HPM 970. Training and Pedagogy for Health Leaders. 1 Credits.
In this class you will learn how to apply best pedagogical practices to develop effective educational experiences that meet learning needs of audiences in academic, organizational, and community settings. DrPH students only.

Rules & Requirements
Grading Status: Letter grade.

HPM 992. Master's (Non-Thesis). 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

HPM 994. Doctoral Research and Dissertation. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

Following the faculty member's name is a section number that students should use when registering for independent studies, reading, research, and thesis and dissertation courses with that particular professor.

Professors

Ethan Basch, Medical Oncologist, Health Services Research
William B. Gentry (036), Emergency Preparedness and Disaster Management
Kristen Hassmiller Lich (013), Applying Operations Research to Complex Systems, Econometrics Tools in Health Care, Infectious Disease Modeling
George Mark Holmes (014), Hospital Finance, Rural Health, Workforce, Health Policy, Patient-Centered Outcomes
Jessica Lee (312), Access to Care for Children, Evidence-Based Practice of Dentistry
Valerie Lewis (038), Accountable Care Organizations, Payment Models, Health Care Disparities
Benjamin Meier (049), Global Health Policy, Interdisciplinary Research at Intersection of International Law, Public Policy, and Global Health
Jonathan Oberlander (016), Health Care Politics and Policy, Health Care Reform, Medicare
Kristin Reiter (020), Healthcare Financial Management, Management Accounting
Chris Shea (023), Organizational Behavior, Health Informatics
Justin Trogdon (031), Health Economics, Economic Burden of Cancer, Health Policy Cost-Effectiveness Evaluation
Karen Volmar (040), Health Policy Development Through Program Evaluation and Legal Research, Provider and Payer Performance Measurement, Health Law
Lynne Wagner (052), Patient-centered Outcomes, Cancer Clinical Trials, Care Delivery
Stephanie Wheeler (033), Health Services Research, Decision Sciences, Financial Impacts of Cancer, Health Disparities

Professors of the Practice

John Wiesman (047), Workforce Development, Public Health Funding, Transformational Leadership, Public Health Policy and Advocacy.

Associate Professors

Leah Frerichs (009), Integration of Engaged and Participatory Research with Systems Thinking and Systems Science, Environmental Influences on Obesity, Influences on Health and Wellness in Underserved Communities
Lindsey Haynes-Maslow (041), Policies Leading to Healthy Behavior among Disinvested Communities; Intersection between Public Health and Nutrition
Susan Helm-Murtagh (008), Strategic Management, Leadership
Erin Kent (012), Epidemiology, Health Services Research, Mixed Methods Research, Community-Based Participatory Research
Angela Stover (028), Health Services Research, Patient-Reported Outcomes, Mixed Methods and Implementation Science
Sean Sylvia (029), Health and Development Economics, Delivery of Health Services in Developing Countries, Econometrics, Impact Evaluation, Cost Effectiveness Analysis
Kat Tumlinson (053), Population and Global Reproductive Health
Karl Umble (032), Program Design and Evaluation, Management and Leadership Development in Public Health

Assistant Professors

Sam Baxter (054), Men's Health, Cardiovascular Disease Prevention, Place-Based Disparities
Arrianna Planey (017), Health/Medical Geography, Measuring Health Care Access, Health Care Equity, Spatial Epidemiology
Mya Roberson (050), Patient-Engaged Cancer Care Delivery, Cancer Outcomes, Health Care Equity, Social Epidemiology
Jeffrey Simms (037), Professional Development, Job Placements, Internships, Professional Networking, Alumni Relations
Melanie Studer (030), Undergraduate Public Health Education, Health Systems, Human Resources, Professionalism in Health Care

Monica Taylor (058), Health Equity Policy, Health Disparities, Health Inequality, Health Outcomes
Tara Templin (051), Health Economist, Population-Level Socioeconomic Causes and Consequences of Noncommunicable Diseases, Cost-Effective Public Health Policies for Prevention and Treatment
Elizabeth Tomlinson (042), Improving Health Care Experiences for Survivors of Violence, Particularly Those Experiencing Health Disparities Associated with Social Determinants of Health
Lauren Wallace (055), Health Care Operations, Management, and Policy, Financial Theory and Practice
Ciara Zachary (046), Health Policy Research, Policy Advocacy to Increase Access, State and Federal Health Policy Analysis

Adjunct Professors

Edward Baker
Bruce Fried
Samuel Jackson
Joan Krause
Jennifer Lafata
Thomas C. Ricketts
David Zepeda

Adjunct Associate Professors

Travis Day
Fredrick Homan
Lawrence K. Mandelkehr
Michael Markowitz
Alisha Ozmeral
Vivian Singletary

Adjunct Assistant Professors

Ugbede Abu
Zara Ahmed
Megan Berlinger
Lorin Bruckner
Tim Carney
John Catalano
Paul Cornwell
Oscar Fleming
Tyonne Hinson
Laura Hoemeke
Christine Kim
Kerri Lowery
Jim Porto
Tamara Scoville
Stephanie Watson-Grant

Adjunct Instructors

Edwin Alcorn
Lorin Bruckner
Randall J. Egsegian
Franklin Farmer
Sash Goswami
Eric Griffin
Laura Hoemeke
Darrell Jeter
Donald R. Markle
Michael Patterson
Guy Valente
Eric Wolak
Cameron Wolfe

Professors Emeriti

Edward Brooks
Laurel Files
Sagar Jain
Arnold Kaluzny
Joe Morrissey
John Paul
Morris Weinberger
William N. Zelman

Contact Information

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Visit Program Website (http://sph.unc.edu/hpm/health-policy-and-management-home/)

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DEPARTMENT OF HEALTH SCIENCES (GRAD)

The mission of the Department of Health Sciences is to improve the health and wellbeing of all people of North Carolina, the nation, and globally through exemplary and culturally sensitive teaching, innovative research, and person-centered care.

- **Exemplary Teaching**: To produce a diverse, interprofessional, and culturally competent workforce of health care practitioners, educators, researchers, and health care leaders.
- **Innovative Research**: To conduct research aimed at generating new knowledge that advances the practices and policies of health care.
- **Person-Centered Care**: To advance the science and practice of person-centered care with a focus on patient outcomes, families, communities, integrative health care, health promotion/disease prevention, and the improvement of overall quality of life.

Throughout our teaching, research, and clinical care, we are committed to engagement with diverse student, faculty, and patient/client populations and to creating an inclusive and equitable environment in which to work and learn.

Graduate and Professional Programs

- Clinical Laboratory Science, M.S. (https://catalog.unc.edu/graduate/schools-departments/division-clinical-laboratory-science/#programstext)
- Clinical Mental Health Counseling, M.S (p. 210).
- Clinical Rehabilitation Counseling, M.S. (p. 215)
- Human Movement Science, Ph.D. (p. 481)
- Occupational Science and Occupational Therapy, M.S., Ph.D (p. 611).
- Physician Assistant Studies, M.H.S (p. 641).
- Physical Therapy, D.P.T.
- Radiologic Science (Radiologist Assistant), M.S.
- Speech and Hearing Sciences, M.S., Au.D., Ph.D. (p. 764)

Professors

Nancy Bagatell
Claudio Battaglini
Troy Blackburn
Eileen J. Burker
Elizabeth R. Crais
Timothy Daaleman
Karen Erickson
John Grose
Kevin M. Guskiewicz
Anthony C. Hackney
Katarina L. Haley
Joseph Hart
Lisa Johnston
Karen McCulloch
Jason Mihalik
Tara C. Moon
Jordan B. Renner
Jackson Roush
Stephanie Sjoblad
Abbie Smith-Ryan
Darin Padua
Linda R. Watson
Bing Yu

Associate Professors

Dara Chan
Jennifer Cooke
J.D. DeFreese
Lisa Domby
Rabheleh Ghassmenia
Jyotsna Gupta
Erik Hanson
Adam Jacks
Vanessa Jewell
Zachary Kerr
Kristen Kucera
Michael Lewek
Cara McComish
Brenda Mitchell
Nancy McKenna
Martha Mundy
Brian Pietrosimone
Eniko Rak
Laurie Ray
Johna Register-Mihalik
Joy J. Renner
Eric Ryan
Jessica Steinbrenner
Lee Stoner
Linn Wakeford
Erik Wikstrom
Sharon W. Williams

Assistant Professors

Shelby Baez
Jimakaye Beck Courtney
Malia Blue
Lindsey Byom
Jessica Cassidy
Deidra Charity
Amy Dela Cruz
Bria Dunn
Philip Griffin
Kenya Haugen
Penelope Hatch
Khalilah Johnson
Patricia Johnson
Adam Kiefer
Bai Li
Sean Lowers
Shawn Luby
Sarah McAuliffe
Dana B. McCarty
Blaise Morrison
Lauren Noble
Jeff O'Laughlin
Michael Sandbank
Hannah Siburt
Katie Sorensen
Katrina Steinsultz
Laine Stewart

Sara Taylor
Susan Taylor
Louise Thoma
Joshua Torrey

Affiliated Faculty

Jacqueline H. Cole
Jason Franz
Steven George
Kelly Giovanello
Richard Goldberg
Yvonne Golightly
Joseph Hopfinger
He Huang
Laura Linnan
Stephen Marshall
Michelle Meyer
Deborah Porterfield
William Prentice

Clinical Assistant Professors

Jenny Elfering
Katie Hanlon
Terra Rose
Allison Phillips
Judy Schmidt
Jen Vonderau
Nick Wiley

Adjunct Faculty

Seth M. Alexander
W. Leigh Atherton
Alyse Bone
Kristen Brackett
Emily Buss
Jamie Daut
Margaret Dillon
Andres Dunn
Hannah Eskridge
Douglas Fitzpatrick
Lynn Fox
Nicole Frederickson
Clare Harrop
Kunal Jakharia
Lee James
Brian Kanapkey
Jessica Kinard
English King
Harley Locklear
Lisa Woods Markley
Stephanie McAdams
Leslie Meredith
Lisa Park
Corey Pitts
Debra R. Reinhartsen
Marcia Rodriguez
Brianne Tomaszweski
Katie Tompkins
Gina Vess
David Zajac

Instructors

Kristine Barnette
Randy Gay
Susan MacNeela
Wendy Ross
Jamelle Salomon
Caitlyn Whitson

Faculty Emeriti

Virginia Dickie
Melody Harrison
Lee McLean
Cathy Nielson
Jane Rourk
David Yoder

Contact Information

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Bondurant Hall, CB #7120
(919) 843-4495

Chair
Stephen R. Hooper

DEPARTMENT OF HISTORY (GRAD)

The graduate history program at UNC–Chapel Hill is committed to training professional historians to be both scholars and teachers. Our program allows ample choice to students in designing academic programs to fit particular interests and needs while providing them with rigorous training in African history, ancient history, Asian history, European history, global history, Latin American history, military history, Russian and East European history, United States history, and the history of women and gender. Degree requirements and departmental culture encourage comparative and interdisciplinary study. The program promotes close mentoring relationships with faculty and sustains a lively intellectual community among the graduate students.

Extensive information about the graduate program in history (https://history.unc.edu/graduate-program/) is available online. Please use this site to supplement the brief summary included in the Graduate Catalog.

Admission

The department considers applications from those holding undergraduate degrees and those who have obtained M.A. degrees elsewhere. Students admitted to the department with an M.A. from another university will be reviewed by the faculty at the time of entry into the program to determine whether they should take a second M.A. degree here or proceed directly to the Ph.D. training. Preference in admission is given to students who intend to proceed to doctoral work, either directly or after completion of the M.A. degree.

Fellowships and Assistantships

The department funds most of its students through teaching assistantships or fellowships and also offers research grants and dissertation fellowships. In addition, The Graduate School awards fellowships to both entering students and students in the later phases of their doctoral training.

Libraries and Research Opportunities

The Davis and Wilson libraries have many collections of great value, and the University itself is conveniently situated close to a number of other research centers, particularly the Duke University Library and the North Carolina State Department of Archives and History (https://www.ncdcr.gov/about/office-archives-and-history/). The library houses many outstanding special collections, including the William Henry Hoyt Collection on revolutionary France and the Peabody Collection on international law and diplomacy. Especially notable are the Southern Historical Collection (one of the most important manuscript collections on the subject), and the North Carolina Collection (a repository of books, magazines, pamphlets, and newspapers published in or about North Carolina). The Southern Oral History Program and the Center for the Study of the American South further enhance research and training in the history of our region.

The University Center for Global Initiatives, the Center for European Studies; the Institute for the Study of the Americas; the Center for Slavic, Eurasian, and East European Studies; the Center for Jewish Studies; the Carolina Center for Middle East and Muslim Civilizations; the Department of Asian Studies; and various Triangle Area research and study groups sponsor fellowships, seminars, speakers, and other opportunities in their respective areas. The Department of History participates in the interdisciplinary Medieval and Early Modern Studies Program (MEMs), which offers fellowships and research grants. MEMs places special emphasis upon viewing the premodern world from a global perspective. The Ancient World Mapping Center (https://awmc.unc.edu/) forms part of the Department of History, and there is no other unit worldwide that matches its mission of promoting cartography and geographic information science within ancient studies. In addition, a variety of workshops regularly bring together faculty and graduate students who share interest in particular historical topics or approaches.

The M.A. Program

The courses required for the M.A. degree usually include an introduction to historical thought (HIST 700) and an introductory seminar on research (HIST 900), to be taken in the first year of study; a two-semester reading colloquium or its equivalent in the student's major field; one additional seminar (900-level course); three hours of thesis credit (HIST 993); and four other courses, of which as many as three may be taken in fields other than that in which the student is concentrating or even in other disciplines. M.A. candidates must also pass a reading-knowledge examination in an appropriate foreign language, prepare a thesis based on original research, and pass an oral examination on the thesis. Students entering in fall 2010 and afterwards are expected to complete the M.A. after three semesters in residence.

The Ph.D. Program

Satisfactory completion of the M.A. does not automatically entitle a student to continue at the doctoral level. After the M.A. oral examination, the student's committee reaches a formal written decision about whether he or she should continue toward the Ph.D.

All courses taken at UNC–Chapel Hill for the M.A. (except HIST 993) may be credited toward the doctoral program. If The Graduate School approves for transfer credit up to six hours of graduate courses taken elsewhere, these may be credited as well. Candidates for the Ph.D. complete the following minimum course program (in addition to the requirements for the M.A.): a research seminar, two courses in a second field of study, research design (HIST 905), and dissertation credit (HIST 994). A reading knowledge of two foreign languages or advanced proficiency in one is required for the Ph.D. degree.

Each doctoral student must pass written comprehensive examinations in the major field as well as an oral examination that focuses on the dissertation. The final requirements for the Ph.D. are a dissertation and an oral examination on it.

The department expects doctoral students to proceed efficiently with their work. For those who enter the program in fall 2010 and afterwards and who are pursuing both the M.A. and the Ph.D., all coursework and the comprehensive written and oral examinations must be completed by the end of the sixth semester. For those who enter the program with an acceptable M.A. from another institution, A.B.D. (all but dissertation) status must be achieved within four semesters. The entire degree program must be completed within a period of eight years.

Professors

Cemil Aydin
William A. Barney
Jennifer Boittin
W. Fitzhugh Brundage
Chad Bryant
Marcus G. Bull

Peter A. Coclanis
Kathleen DuVal
Erik Gellman
Joseph T. Glatthaar
Karen Hagemann
Klaus W. Larres
Miguel A. La Serna
Wayne E. Lee
James L. Leloudis
Lisa A. Lindsay
Susan D. Pennybacker
Louis A. Pérez
Donald M. Reid
Sarah D. Shields
Jay M. Smith
John W. Sweet
Katherine Turk
Benjamin Waterhouse
Brett E. Whalen

Associate Professors

Karen Auerbach
Jens-Uwe Guettel
Jerma A. Jackson
Lauren Jarvis
Michelle T. King
Terence V. McIntosh
Michael Morgan
Eren Tasar
Michael Tsin
Molly Worthen

Assistant Professors

Ana Maria Silva Campo
Raquel Escobar
Camille Goldmon
Jennifer Grayson
Henry Gruber
Antwain Hunter

Teaching Professors

Matthew Andrews
Joseph W. Caddell

Joint Professors

Claude Clegg
Morgan J. Pitelka
Daniel J. Sherman

Adjunct Professors

Daniel M. Cobb
Kenneth Janken

Adjunct Associate Professors

Jessica A. Boon
Daniel M. Cobb
Christian C. Lentz
Raúl Necochea

Professors Emeriti

Samuel H. Baron
Stephen B. Baxter
Frederick O. Behrends
Judith M. Bennett
E. Willis Brooks
Christopher R. Browning
Melissa M. Bullard
Kathryn Burns
John C. Chasteen
Stanley J. Chojnacki
William R. Ferris
Peter G. Filene
W. Miles Fletcher
Jacquelyn D. Hall
Barbara J. Harris
Reginald Hildebrand
Konrad H. Jarausch
John F. Kasson
Lawrence D. Kessler
Richard H. Kohn
Lloyd S. Kramer
William E. Leuchtenburg
Roger W. Lotchin
Fred S. Naiden
Donald G. Mathews
W. James McCoy
Genna Rae McNeil
Louise McReynolds
Michael R. McVaugh
John K. Nelson
Theda Perdue
Cynthia Radding
Donald J. Raleigh
John E. Semonche
Richard Talbert
Harry L. Watson
Gerhard L. Weinberg

HIST

Advanced Undergraduate and Graduate-level Courses

HIST 418. Family and Gender in Early Modern China and Korea. 3 Credits.
This course explores family and kinship in early modern China and Korea through the lens of gender and sexuality. In particular, it invites students to think beyond the bias that women in premodern East Asia were victims of patriarchy to understand their active participation in their world-making as well as their dynamic imagination and expression through writing, working, learning, loving.

Rules & Requirements

IDEAs in Action Gen Ed: FC-PAST or FC-POWER.
Grading Status: Letter grade.
Same as: ASIA 418, WGST 418.

HIST 421. Alexander. 3 Credits.
The rise of Macedonia; the careers of Philip II and Alexander (with emphasis on the latter's campaigns); the emerging Hellenistic Age. The course integrates computer (including Web site) and audiovisual materials throughout.

Rules & Requirements
Grading Status: Letter grade.
Same as: PWAD 421.

HIST 422. Ancient Greek Warfare. 3 Credits.
War and the warrior in the archaic and classical Greek world, seventh to the fourth centuries BCE. Honors version available.

Rules & Requirements
Grading Status: Letter grade.
Same as: PWAD 422.

HIST 423. Archaic Greece, 800-480 BCE. 3 Credits.
HIST 225 strongly recommended. Topical approach to the social and cultural history of the ancient Greek city states, ca. 800-336 BCE.

Rules & Requirements
Grading Status: Letter grade.

HIST 424. Classical Greece (Sixth-Fourth Centuries BCE). 3 Credits.
HIST 225 strongly recommended. The life and times of the ancient Athenians from the sixth to fourth centuries BCE.

Rules & Requirements
Grading Status: Letter grade.

HIST 425. Roman History, 154 BCE-14 CE. 3 Credits.
Explores the transformation from Republic to Principate. Conducted in considerable part by student reports and classroom discussions.

Rules & Requirements
Grading Status: Letter grade.

HIST 427. The Early Roman Empire, 14 CE-193 CE. 3 Credits.
Focuses upon administrative, social, and economic themes. Conducted in considerable part by student reports and classroom discussions.

Rules & Requirements
Grading Status: Letter grade.

HIST 428. The Later Roman Empire, 193 CE-378 CE. 3 Credits.
Focuses upon administrative, social, and economic themes. Conducted in considerable part by student reports and classroom discussions.

Rules & Requirements
Grading Status: Letter grade.

HIST 429. Ancient Sexuality. 3 Credits.
This course deals with the complex topic of ancient sexuality, which includes courtship, marriage, family structure, public and private morality, and law enforcement. In terms of historical method, this course teaches students how to discover evidence for social history in both diverse documentary and literary sources.

Rules & Requirements
Grading Status: Letter grade.

HIST 431. The Medieval Church. 3 Credits.
The nature and workings of the Western church between roughly 600 and 1300. Emphasis on the church "from within," organization, missionary strategies, liturgy, monasticism, popular religion.

Rules & Requirements
Grading Status: Letter grade.

HIST 432. The Crusades. 3 Credits.
Students in this course will examine Christian attitudes toward holy war, crusading, and other forms of coercive violence from the 11th until the 15th centuries, with a focus on the major crusades to the Holy Land.

Rules & Requirements
Grading Status: Letter grade.

HIST 434. Medieval England. 3 Credits.
A consideration of England's origins, unification, and development as a national monarchy. Primary emphasis is on political, ecclesiastical, and cultural aspects.

Rules & Requirements
IDEAs in Action Gen Ed: FC-KNOWING or FC-PAST.
Grading Status: Letter grade.

HIST 435. The Medieval University. 3 Credits.
The origins and development of the university during the period 1100 to 1400; types of organization, curricula and degrees, intellectual life, town-gown and student-master relationships.

Rules & Requirements
Grading Status: Letter grade.

HIST 437. Aristocratic Culture in the Central Middle Ages. 3 Credits.
This course has as its theme the lives of aristocratic men and women in western Europe between about 850 and 1200 CE. Discusses the nature of aristocratic identity, the trends that shaped the lives of aristocratic men and women, and the different roles of men and women within aristocratic culture.

Rules & Requirements
IDEAs in Action Gen Ed: FC-KNOWING or FC-PAST.
Grading Status: Letter grade.

HIST 438. Medieval Masculinities, 500-1200. 3 Credits.
This course examines the multifaceted constructions of masculinity found in narrative texts produced in medieval western Europe. Focuses on topics such as gender relations, male self-fashioning, homosocial bonding, family structures. Sources studied range from epic and romance to chronicles and visual records. Honors version available.

Rules & Requirements
IDEAs in Action Gen Ed: FC-KNOWING or FC-PAST.
Grading Status: Letter grade.

HIST 439. Environmental China: Premodern Political Ecology. 3 Credits.
This course explores the history of premodern China from an environmental perspective. Based on mini-lectures and intensive discussions, it investigates diverse modes and sites of human-nature interactions such as agriculture, forestry, marine activities, natural disasters, and landscape cultivation.

Rules & Requirements
IDEAs in Action Gen Ed: FC-KNOWING or FC-PAST, RESEARCH.
Grading Status: Letter grade.
Same as: CHIN 439.

HIST 440. Gender in Indian History. 3 Credits.
An analysis of the roles of women and men in Indian societies from the early to the modern periods. Topics include the cultural construction of gender and sexuality; beauty and bodily practices; gender and religion; gender and politics; race, imperialism, and gender. Previously offered as HIST/ASIA 556.

Rules & Requirements
Grading Status: Letter grade.
Same as: ASIA 440.

HIST 441. Beauty and the Body in Pre-Colonial Indian History. 3 Credits.
This course will discuss theories of beauty and the body in Indian History (c. 3 - 17th centuries) and their relation to differing constructions of gender.

Rules & Requirements
Grading Status: Letter grade.

HIST 442. Religion, Co-existence, and Conflict in Pre-Colonial India. 3 Credits.
This course traces the fascinating history of material, cultural, and theological exchanges and conflicts between individuals belonging to two of the world's major religions: Hinduism and Islam. Throughout the course we will also analyze how modern commentators have selectively used the past to inform their understandings of the present. Previously offered as HIST/ASIA 555.

Rules & Requirements
Grading Status: Letter grade.
Same as: ASIA 441.

HIST 443. Settler Colonialism in Global Perspective. 3 Credits.
This seminar introduces the field of settler colonial studies and history. It investigates how settler colonial polities consolidated during and after the global "settler revolution," how they managed relations with the imperial metropole and dealt with the Indigenous populations, whose resistance, adaptation, survival and agency also feature.

Rules & Requirements
IDEAs in Action Gen Ed: FC-KNOWING or FC-PAST.
Grading Status: Letter grade.

HIST 445. Humanitarianism in Historical Perspective. 3 Credits.
This seminar examines humanitarianism in global context around 1800, beginning with the formation of humanitarian movements dedicated to alleviating suffering and especially ending slavery. It traces the movement's complicated relationship to empire in the 19th century, and the professionalization of humanitarian aid in the 20th century.

Rules & Requirements
IDEAs in Action Gen Ed: FC-KNOWING or FC-PAST.
Grading Status: Letter grade.

HIST 448. Gender and the Law in United States History. 3 Credits.
This course will explore how the law in America has defined and regulated gender and sexuality. Significant topics will range from marriage, reproduction and the family to suffrage, work, and social movements. Honors version available.

Rules & Requirements
Grading Status: Letter grade.

HIST 452. The Renaissance: Italy, Birthplace of the Renaissance, 1300-1550. 3 Credits.
A study of the people, culture, and intellectual achievements of the Italian Renaissance with emphasis on the interaction between culture and society.

Rules & Requirements
Grading Status: Letter grade.

HIST 453. Mediterranean Societies and Economics in the Renaissance World. 3 Credits.
A picture of Mediterranean social and economic life 1300 to 1600, with special focus on rural and urban society, family structure, patronage, work and wages, public and private finance.

Rules & Requirements
Grading Status: Letter grade.

HIST 454. The Reformation. 3 Credits.
Examines a movement of religious reform that shattered Latin Christendom and contributed many of the conditions of early modern Europe. Emphases: religious, political, social.

Rules & Requirements
Grading Status: Letter grade.
Same as: RELI 454.

HIST 456. The Holocaust, Genocide and Historical Methodology. 3 Credits.
This seminar will familiarize students with foundational works of Holocaust historiography as well as with newer works that challenge old interpretations and methodologies. Throughout the course we will look at the mutual influences of historical writing and memory of the Holocaust as societies have come to terms with the dark past of the Second World War; the course will also examine historical writing as a form of representation and memory. Previously offered as HIST 743.

Rules & Requirements
IDEAs in Action Gen Ed: FC-PAST or FC-POWER.
Grading Status: Letter grade.

HIST 457. Liberalism, Socialism, and Fascism in Europe. 3 Credits.
This seminar examines liberal, socialist, communist, and fascist political systems in Europe during the twentieth century by comparing and contrasting their ideologies and approaches to their citizens' welfare. The seminar compares European and US experiences, and also attends to conservative critiques of the expansion of government activity in the 1940s.

Rules & Requirements
IDEAs in Action Gen Ed: FC-KNOWING or FC-PAST.
Grading Status: Letter grade.

HIST 458. Europe and the World Wars, 1914-1945. 3 Credits.
Europe and the experience of total war, with special focus on national conflicts; ideological conflicts among fascism, communism, and liberalism; and the dictatorships of Hitler and Stalin.

Rules & Requirements
Grading Status: Letter grade.

HIST 459. Global Evangelicalism since 1600. 3 Credits.
This is a survey of evangelical Christianity from 1600 to the present. We will trace the roots of evangelicalism in post-Reformation Europe, its diverse expressions and political influence in modern Western culture, and its recent spread throughout the Global South.

Rules & Requirements
Grading Status: Letter grade.

HIST 462. Germany, 1806-1918: Politics, Society, and Culture. 3 Credits.
This course examines the changes in German politics, culture, and society during the long 19th century, with a focus on the Anti-Napoleonic Wars and the following era of restoration, the Vormärz and the Democratic Revolution of 1848 to 1849, the German Unification of 1871 and the Wilhelmine Empire, and finally World War I. Honors version available.

Rules & Requirements
Grading Status: Letter grade.

HIST 463. Germany since 1918: Politics, Society, and Culture. 3 Credits.
This course examines the changes in German politics, culture, and society during the 20th century, with a focus on the Weimar Republic, the Third Reich and World War II, the reshaping of East and West Germany since the post-war era, and the unification in 1989. Honors version available.

Rules & Requirements
Grading Status: Letter grade.

HIST 466. Modern European Intellectual History. 3 Credits.
The main developments in European thought from the Enlightenment to the 20th century, with some attention to social context. Readings include Voltaire, Rousseau, Hegel, Marx, Tocqueville, Sand, Flaubert, Nietzsche, Freud. Honors version available.

Rules & Requirements
Grading Status: Letter grade.

HIST 468. Culture on the Move: Art, Empire, and Restitution since 1800. 3 Credits.
This discussion-based course examines the systems of value that confer special status on the broad category of cultural property, then explores a number of case studies of art theft and restitution since the early 19th century, with an emphasis on art theft during World War II and that undertaken under the aegis of European colonialism.

Rules & Requirements
IDEAs in Action Gen Ed: FC-AESTH or FC-PAST.
Grading Status: Letter grade.
Same as: ARTH 484.

HIST 469. European Social History. 3 Credits.
The social transformation of Europe from agrarian through postindustrial society, discussing population growth, family history, spread of education, class structure, social conflict, group ideologies, and mass politics, as well as everyday lives and popular lifestyles.

Rules & Requirements
Grading Status: Letter grade.

HIST 474. Britain in World Affairs: British Foreign Policy since World War II. 3 Credits.
The course provides a historical, political, and socio-economic framework for understanding British history and politics in the 20th and 21st centuries. We will assess important turning points in domestic British politics, the main focus will be on Britain's foreign relations during both the Cold War and the post-Cold War years.

Rules & Requirements
Grading Status: Letter grade.

HIST 475. History of Feminism. 3 Credits.
This course will examine the unprecedented surge of feminist thought and activism in the postwar United States. Course materials and discussions will trace feminists' varied conceptions of empowered womanhood and their expectations of the state, society at large, and each other. Honors version available.

Rules & Requirements
Grading Status: Letter grade.
Same as: WGST 476.

HIST 476. Religion and Ethnicity. 3 Credits.
The history of modern Eastern, East Central, and southeastern Europe has been shaped by the ethnic and religious diversity of the regions. This course examines experiences in the Russian, Habsburg, and Ottoman Empires and their successor states from the 19th century to the present day.

Rules & Requirements
Grading Status: Letter grade.
Same as: JWST 476.

HIST 477. Revolution in Russia, 1900-1930. 3 Credits.
A close study of Russia's age of revolution from the reign of the last tsar to the turbulent Stalin Revolution of 1929, with emphasis on the revolutions of 1917.

Rules & Requirements
Grading Status: Letter grade.

HIST 478. Stalin and After: The USSR, 1929-Present. 3 Credits.
An in-depth examination of Soviet and post-Soviet history from 1929 to the present.

Rules & Requirements
Grading Status: Letter grade.

HIST 479. History of Female Sexualities. 3 Credits.
Spanning the ancient, medieval, and modern West, this course explores normative and non-normative female sexualities, ideas about female bodies, and the regulation of female sexuality by families, religions, and states.

Rules & Requirements
Grading Status: Letter grade.
Same as: WGST 479.

HIST 480. Russia's 19th Century: Cultural Splendor, Imperial Decay. 3 Credits.
The diplomatic, military, and ideological confrontations with the West; the decline and fall of the Russian autocracy; the evolution of reform thought; and revolutionary opposition.

Rules & Requirements

IDEAs in Action Gen Ed: FC-PAST.
Grading Status: Letter grade.

HIST 481. From Communists to Capitalists: Eastern Europe since 1945. 3 Credits.
An examination of the countries of Eastern Europe, their origins and development since World War II, their cohesion and conflict.

Rules & Requirements
Grading Status: Letter grade.

HIST 482. Russia, Eurasian Empire. 3 Credits.
This course examines the development of the Russian Empire, from the Mongol conquest in the 13th century to the transformation of Imperial Russia in the Soviet Union after 1917.

Rules & Requirements
Grading Status: Letter grade.

HIST 483. Nation and Religion in Russia. 3 Credits.
This course explores the role of nation and religion in shaping political, cultural, and social experience and change in Tsarist and Soviet Russia through the prism of Christianity, Islam, and Judaism.

Rules & Requirements
Grading Status: Letter grade.

HIST 484. Islam in Tsarist and Soviet Russia. 3 Credits.
This course examines the role that Islam has played in the history of the Russian sphere--interior Russia, Siberia, the Caucasus, and Central Asia--from the 18th century to the present. Topics include methods of rule, social change, Islamic institutions, attempts to bureaucratize religion, and resistance.

Rules & Requirements
Grading Status: Letter grade.

HIST 485. From Fiddler on the Roof to the Holocaust: East European and Soviet Jewish History. 3 Credits.
Eastern Europe was one of the largest centers of Jewish civilization from premodern times to the Second World War, giving rise to important religious, cultural, and political developments in Jewish modernity. This course examines main developments of Jewish society from the late 18th century until the aftermath of the Holocaust.

Rules & Requirements
Grading Status: Letter grade.
Same as: JWST 485.

HIST 486. Extremism, Terrorism, and Security in Postwar Europe. 3 Credits.
In the debate on how to efficiently combat terrorism without abandoning the rule-of-law, it is often neglected that this is not a new problem. This course will examine European states' reactions to national and international terrorism since the 1960s. Case studies will include Germany, Italy, and the United Kingdom. Honors version available.

Rules & Requirements
Grading Status: Letter grade.
Same as: PWAD 485.

HIST 488. Global Intellectual History. 3 Credits.
This seminar studies the circulation, exchange, translation, reception, and adaptation of political, social, and cultural ideas across time and space. After considering systems of knowledge in Asia, Africa, and the Americas, the seminar explores reactions to European empire. Themes include (de)coloniality, modernity, development, conceptions of nationality, race, and civilizations. Honors version available.

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING or FC-PAST.
Grading Status: Letter grade.

HIST 489. The History of the 2008 Financial Crisis. 3 Credits.
This course explores the 2008 financial crisis as a window into the longer history of global capitalism. We consider the construction of the sub-prime mortgage market, mass securitization, deregulation, and the interconnected nature of global finance, as well as the historical development of crises within financial capitalism. Honors version available.

Rules & Requirements

IDEAs in Action Gen Ed: FC-PAST.
Grading Status: Letter grade.

HIST 490. Special Topics in History. 3 Credits.
Subject matter will vary with instructor but will focus on some particular topic or historical approach. Course description available from the departmental office. Honors version available.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 9 total credits. 3 total completions.
Grading Status: Letter grade.

HIST 493. Internship in History. 1-3 Credits.
Permission of the director of undergraduate studies. A supervised internship at an organization or institution engaged in the promotion of historical studies or the collection and preservation of historical documents and artifacts.

Rules & Requirements

IDEAs in Action Gen Ed: HI-INTERN.
Repeat Rules: May be repeated for credit. 6 total credits. 6 total completions.
Grading Status: Letter grade.

HIST 495. Directed Readings in History. 1-3 Credits.
Permission of the director of undergraduate studies. Directed reading and relevant writing, supervised by a member of the department, in a selected field of history.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

HIST 496. Independent Research in History. 1-3 Credits.
Permission of the director of undergraduate studies. Directed primary source research and production of a research project, supervised by a member of the department. Prior coursework in the selected field is recommended.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

HIST 500. Gender, Empire, and Nation. 3 Credits.
This course explores the growing body of research on gender, empire, and nation/nationalism in modern European history by focusing on problems of national belongings and citizenship, state and nation building and empire formation, and the gendered discourses and representations of nation and empire.

Rules & Requirements
Grading Status: Letter grade.
Same as: WGST 500.

HIST 507. Geopolitical Rivalry, Development, and Global Capitalism, 1900-1950. 3 Credits.
This course uses geopolitics, empire, and development as prisms to examine the economic history of the globe from the First World War to the dawn of the postcolonial age. We first first trace how states and populations the world over grappled with the economic effects stemming from the First World War itself and the breakdown of the prewar order. From we move into the interwar period and analyze the attempts by various actors in US, Europe and Asia to contest the economic realities of the 1920s/30s. Thereafter, we study total war economies and economic reform in the age of decolonization.

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL or FC-PAST.
Grading Status: Letter grade.

HIST 508. Europe and Humanitarian Aid since 1945: Concepts, Actors, Practices. 3 Credits.
This seminar offers students an insight into the role of Europe within the global regime of humanitarian aid. After looking at the history and at theoretical definitions of humanitarianism, the course will examine a variety of case studies to assess the changing role of Europe in the post-war era.

Rules & Requirements
Grading Status: Letter grade.

HIST 509. The World History of Slavery. 3 Credits.
This course considers slavery in comparative context, from ancient times to the present and across the world. It offers a chronological narrative and raises themes for comparison, including women in slavery and challenges to slavery. This approach allows for a wide view of this pervasive institution and develops analytical skills.

Rules & Requirements
Grading Status: Letter grade.

HIST 510. Human Rights in the Modern World. 3 Credits.
This course looks at the international history of human rights from the Enlightenment to the present and considers how human rights ideas first emerged, how they evolved, and how they became so influential. Honors version available.

Rules & Requirements
Grading Status: Letter grade.

HIST 511. 9/11 in World History. 3 Credits.
This course focuses on three great decolonization movements-Communism, Nationalism, and Islamism-in the postcolonial Islamic world, in an attempt to understand the impact of the 9/11/2001 terrorists attacks on the social, political, and cultural life of Muslims in predominantly Islamic countries and diasporic communities in the West. Honors version available.

Rules & Requirements
Grading Status: Letter grade.

HIST 514. Monuments and Memory. 3 Credits.
Explores the role of monuments in the formation of cultural memory and identity, both nationally and globally. Topics include the construction of identities in and through public spaces, commemoration of both singular individuals and ordinary citizens, and the appearance of new types of post-traumatic monuments in the 20th century.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-PAST.
Grading Status: Letter grade.
Same as: ARTH 514.

HIST 516. Historical Time. 3 Credits.
This course explores the ways in which Western historians and other students of the past from Adam Ferguson to Stephen Jay Gould have conceptualized and packaged historical time. Honors version available.

Rules & Requirements
Grading Status: Letter grade.

HIST 517. Gender, Military, and War. 3 Credits.
This course introduces students to new research on the history of gender, the military, and war in a comparative perspective. It explores the interrelations between changing military systems, types of warfare, the gender order, as well as political, social, and cultural currents in modern history.

Rules & Requirements
Grading Status: Letter grade.
Same as: PWAD 517, WGST 517.

HIST 518. Colloquium in World Military History. 3 Credits.
Reading colloquium in world military history, emphasizing Europe, focusing on the most significant issues, methods, and approaches in the field today.

Rules & Requirements
Grading Status: Letter grade.

HIST 526. History of the Andes. 3 Credits.
This course offers a survey of the history of the Andean region. The primary focus will be either the pre-Inca, Inca, and colonial periods or the 19th and 20th centuries, depending on the instructor.

Rules & Requirements
Grading Status: Letter grade.

HIST 531. History of the Caribbean. 3 Credits.
Thematic approach to the history of the West Indies, with emphasis on the period from European conquest through the 20th century. Topics include colonialism, slavery, monoculture, United States-Caribbean relations, and decolonization.

Rules & Requirements
Grading Status: Letter grade.

HIST 532. History of Cuba. 3 Credits.
Thematic approach to Cuban history, from conquest to the revolution. Attention is given to socioeconomic developments, slavery and race relations, the 19th-century independence process, and the 20th-century republic.

Rules & Requirements
Grading Status: Letter grade.

HIST 534. Slavery and the US Civil War. 3 Credits.
A comparative examination of the movements, experiences, and contributions of Africans and people of African descent from the period of the Atlantic slave trade to the present. Honors version available.

Rules & Requirements
Grading Status: Letter grade.

HIST 535. Women and Gender in African History. 3 Credits.
Analysis of historical transformations in Africa and their effects on women's lives and gender relations. Particular themes include precolonial societies, colonialism, religious change, urban labor, nationalism, and sexuality. Honors version available.

Rules & Requirements
Grading Status: Letter grade.

HIST 536. Revolution in the Modern Middle East. 3 Credits.
This course will focus on revolutionary change in the Middle East during the last century, emphasizing internal social, economic, and political conditions as well as international contexts.

Rules & Requirements
Grading Status: Letter grade.
Same as: ASIA 536.

HIST 537. Women in the Middle East. 3 Credits.
Explores the lives of women in the Middle East and how they have changed over time. Focus will change each year.

Rules & Requirements
Grading Status: Letter grade.
Same as: ASIA 537, WGST 537.

HIST 538. The Middle East and the West. 3 Credits.
This course explores changing interactions between the Middle East and the West, including trade, warfare, scientific exchange, and imperialism, and ends with an analysis of contemporary relations in light of the legacy of the past.

Rules & Requirements
Grading Status: Letter grade.
Same as: ASIA 538.

HIST 539. The Economic History of Southeast Asia. 3 Credits.
This course is intended as a broad overview of Southeast Asian economic history from premodern times to the present day.

Rules & Requirements
Grading Status: Letter grade.
Same as: ASIA 539.

HIST 550. Gender in Chinese History. 3 Credits.
This course is designed to introduce undergraduates to recent historical scholarship in the field of Chinese gender studies. Topics include family and kinship, the body and bodily practices, social space, writing, sexuality, work, and law, covering both the premodern and modern periods. No prior coursework required.

Rules & Requirements
Grading Status: Letter grade.

HIST 557. Fiction and History in India. 3 Credits.
This course examines the histories, representations, and cultural perceptions surrounding bandits and rebels in modern India. The representations of bandits and rebels are studied in the light of the emergence of nationalism, shifting notions of gender and masculinity, race relations, and emergence of capitalist structures.

Rules & Requirements
Grading Status: Letter grade.
Same as: ASIA 557.

HIST 562. Oral History and Performance. 3 Credits.
This course combines readings and field work in oral history with the study of performance as a means of interpreting and conveying oral history texts. Honors version available.

Rules & Requirements

IDEAs in Action Gen Ed: HI-PERFORM.
Grading Status: Letter grade.
Same as: COMM 562, FOLK 562, WGST 562.

HIST 564. Religion, Race, and Inquisition in the Spanish Empire. 3 Credits.
This course on the "Atlantic World" studies Muslims, Christians, and Jews in the medieval Iberian kingdoms, then the religious "other" in the colonial expansion to Latin America, by deploying theories concerning race, gender, sexuality, and postcoloniality.

Rules & Requirements

IDEAs in Action Gen Ed: FC-PAST or FC-POWER.
Grading Status: Letter grade.
Same as: RELI 564.

HIST 565. Civil War and Reconstruction, 1848-1900. 3 Credits.
Focus is on causes, nature, and consequences of the Civil War.

Rules & Requirements
Grading Status: Letter grade.
Same as: PWAD 565.

HIST 566. The History of Sexuality in America. 3 Credits.
A history of the sexual practices, desires, and understandings of Americans, from earliest colonial encounters to the late 20th century.

Rules & Requirements
Grading Status: Letter grade.

HIST 568. Women in the South. 3 Credits.
An exploration of the distinctive themes in Southern women's lives, using the evidence of history and literature.

Rules & Requirements
Grading Status: Letter grade.
Same as: WGST 568.

HIST 570. The Vietnam War. 3 Credits.
A wide-ranging exploration of America's longest war, from 19th-century origins to 1990s legacies, from village battlegrounds to the Cold War context, from national leadership to popular participation and impact.

Rules & Requirements
Grading Status: Letter grade.
Same as: ASIA 570, PWAD 570.

HIST 571. Southern Music. 3 Credits.
Explores the history of music in the American South from its roots to 20th-century musical forms, revealing how music serves as a window on the region's history and culture.

Rules & Requirements
Grading Status: Letter grade.
Same as: FOLK 571.

HIST 576. The Ethnohistory of Native American Women. 3 Credits.
Introduces students to the study of Native American women through the perspectives of anthropology, history, and autobiography.

Rules & Requirements
Grading Status: Letter grade.
Same as: WGST 576.

HIST 577. United States Foreign Relations in the 20th Century. 3 Credits.
How the United States came to occupy a leading role in world affairs as a diplomatic, military, economic, and cultural power and what that role has meant to Americans and to other peoples, especially during the Cold War.

Rules & Requirements
Grading Status: Letter grade.
Same as: PWAD 577.

HIST 578. Transatlantic Relations and Contemporary Geo-Politics from the Cold War to the Present. 3 Credits.
This course considers transatlantic relations in its security, political, and economic dimensions. The course also analyzes U.S. attempts to construct a more united European continent. It is the main aim of this course to give students a structured overview of transatlantic relations and geo-political developments from 1945 to the present.

Rules & Requirements
Grading Status: Letter grade.
Same as: PWAD 578.

HIST 580. International Relations and Public History. 3 Credits.
The course combines an academic and practical approach to policy formulation, implementation, and critical evaluation at the global level and based on a solid historical foundation. This course is tightly integrated with the UNC Krasno Global Events Series. Many of the talks in the series as well as the reading material in preparation deal with issues of 20th history, such as the Cold War years, US foreign policy, America's relations with the wider world.

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL or FC-PAST.
Grading Status: Letter grade.

HIST 581. American Constitutional History to 1876. 3 Credits.
In a classroom environment characterized by discussion, simulation, and interaction, the antecedents, formation, and interpretation of the Constitution are confronted in a broad historical matrix.

Rules & Requirements
Grading Status: Letter grade.

HIST 582. American Constitutional History since 1876. 3 Credits.
Using a classroom environment similar to HIST 581, constitutional adjustments and change are related to psychological, political, social, and economic factors, and to Supreme Court members.

Rules & Requirements
Grading Status: Letter grade.

HIST 584. The Promise of Urbanization: American Cities in the 19th and 20th Centuries. 3 Credits.
A survey of the development of American cities since 1815 and their influence upon American history.

Rules & Requirements
Grading Status: Letter grade.

HIST 585. Race, Basketball, and the American Dream. 3 Credits.
This course explores how Americans have used basketball for integration, economic mobility, and political protest. Particular focus is on how black Americans have used the game for individual expression and political and economic advancement; and the ways the game has influenced ideas about race, "whiteness," and "blackness" in our society.

Rules & Requirements

IDEAs in Action Gen Ed: FC-PAST or FC-POWER.
Grading Status: Letter grade.

HIST 587H. The New South. 3 Credits.
This course explores the transformation of the South from the time of the Civil War and emancipation to the contemporary rise of the Sunbelt.

Rules & Requirements
Grading Status: Letter grade.

HIST 589. Race, Racism, and America: (United States) Law in Historical Perspective. 3 Credits.
This course will historically and critically examine the changing legal status of people of color in the United States. Within a broad historical matrix from the colonial era to the present, it will focus on African Americans, Native Americans, Asian Americans, Latina/os, and United States law.

Rules & Requirements
Grading Status: Letter grade.

HIST 593. Exploring the U.S. South Hands On and Ears Open: Internship at the Southern Oral History Program. 3 Credits.
The Southern Oral History Program offers experiential education in the intellectual, organizational, and practical work of oral history. You will learn to do oral history interviews, contribute to a collaborative research project, and help this esteemed research center with programming, processing interviews, communications, and digital projects. You must apply through the Southern Oral History Program. This course is application-only.

Rules & Requirements

IDEAs in Action Gen Ed: HI-INTERN.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

HIST 670. Introduction to Oral History. 3 Credits.
Introduces students to the uses of interviews in historical research. Questions of ethics, interpretation, and the construction of memory will be explored, and interviewing skills will be developed through field work.

Rules & Requirements
Grading Status: Letter grade.
Same as: FOLK 670.

HIST 671. Introduction to Public History. 3 Credits.
Introduces the theory, politics, and practice of historical work conducted in public venues (museums, historic sites, national parks, government agencies, archives), directed at public audiences, or addressed to public issues.

Rules & Requirements
Grading Status: Letter grade.
Same as: AMST 671.

HIST 672. Writing for a Popular Audience. 3 Credits.
A seminar on the art of translating academic expertise for a general audience. Students read model works ranging from philosophy to biology, workshop story ideas, and learn how to publish in print and online media. Open to all disciplines.

Rules & Requirements
Grading Status: Letter grade.

HIST 691H. Honors in History. 3 Credits.
Permission of the instructor. Introduction to the methods of historical research; designed to lead to the completion of an honors essay.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

HIST 692H. Honors in History. 3 Credits.
Permission of the instructor. Introduction to the methods of historical research; designed to lead to the completion of an honors essay.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

Graduate-level Courses

HIST 700. Thinking Historically. 3 Credits.
Introduces students to the intellectual currents and schools of thought that have characterized the historical profession over time. By examining such diverse conceptual frameworks, students will prepare themselves to tackle more confidently the research projects they will design and execute in HIST 900 and 901.

Rules & Requirements
Grading Status: Letter grade.

HIST 701. Introduction to Medieval and Early Modern Studies. 3 Credits.
This is an interdisciplinary course to introduce graduate students to the sources, methods, and approaches of medieval studies.

Rules & Requirements
Grading Status: Letter grade.

HIST 702. Introduction to Historical Education. 3 Credits.
Provides an introduction to teaching history. Topics include the history of historical education, planning a course, the role of the teacher, goals and methods, using new technologies, and evaluating students.

Rules & Requirements
Grading Status: Letter grade.

HIST 703. Professional Lives of Historians. 3 Credits.
In this course, students explore the many identities of professional historians. Through readings and assignments, students learn about the state and future of the historical profession, develop skills that will serve them in their careers, and identify their own goals as professional historians and/or public intellectuals.

Rules & Requirements
Grading Status: Letter grade.

HIST 711. Introductory Colloquium on Early Modern Europe. 3 Credits.
Directed readings on early European history, from Britain through European Russia.

Rules & Requirements
Grading Status: Letter grade.

HIST 712. Introductory Colloquium on Modern Europe. 3 Credits.
Directed readings on modern European history, from Britain through European Russia.

Rules & Requirements
Grading Status: Letter grade.

HIST 713. Introductory Colloquium in Latin American History before 1810. 3 Credits.
Directed readings on Latin American history from preconquest to 1810; required for students entering the field.

Rules & Requirements
Grading Status: Letter grade.

HIST 714. Introductory Colloquium in the History of Latin America since 1810. 3 Credits.
Directed readings on Latin American history in the National Period; required for students entering the field.

Rules & Requirements
Grading Status: Letter grade.

HIST 717. Introduction to Military History. 3 Credits.
An introduction to the methods, issues, and literature of military history, including classic works and scholarship representative of a variety of approaches from history and other disciplines.

Rules & Requirements
Grading Status: Letter grade.

HIST 719. Readings in African History. 3 Credits.
An introduction to major works and themes in the history of premodern and modern African history.

Rules & Requirements
Grading Status: Letter grade.

HIST 720. Introduction to Asian History. 3 Credits.
An introduction to major works and themes in the history of Asia with an emphasis on the history of China, Japan, and South Asia.

Rules & Requirements
Grading Status: Letter grade.

HIST 721. History of the Atlantic World, 1400-1800. 3 Credits.
Examines the changing economic, political, and cultural dynamics between and across Europe, Africa, and the Americas with special attention to colonization and slavery. The course is intended to familiarize students with major works in the field and the latest scholarship.

Rules & Requirements
Grading Status: Letter grade.

HIST 722. Readings in Contemporary Global History. 3 Credits.
Focus on the 19th and 20th centuries. Mixing theory, case studies, and comparisons, the readings reflect disciplinary diversity.

Rules & Requirements
Grading Status: Letter grade.

HIST 723. Readings in Global Cold War History. 3 Credits.
A historiographical overview of the Cold War in a global context, 1945-1991. The course familiarizes students with major works in the field and the latest scholarship.

Rules & Requirements
Grading Status: Letter grade.

HIST 724. Readings in U.S. Immigration History. 3 Credits.
This graduate seminar assumes basic knowledge of U.S. immigration history, allowing us to delve into the legal and administrative history of immigration restriction. Centered on the history of state power, this course examines the development of laws, policies, and institutions that, while often separate from voluntary migration, are deeply interconnected with it. Special emphasis will be placed on the intersections between structural nativism and American racism, particularly as they relate to the evolving forms of White supremacy. Throughout the seminar, we will explore works that uncover these intersections in unexpected arenas.

Rules & Requirements
Grading Status: Letter grade.

HIST 725. Selected Readings in the Comparative or Global History of Women and Gender. 3 Credits.
Readings in the history of women and gender in a comparative, global, or transnational perspective.

Rules & Requirements
Grading Status: Letter grade.
Same as: WGST 725.

HIST 726. Introductory Colloquium in United States History to 1788. 3 Credits.
Directed readings on American history from the precolonial period through the American Revolution; required for students entering the field.

Rules & Requirements
Grading Status: Letter grade.

HIST 727. Introductory Colloquium in United States History, 1788 to 1900. 3 Credits.
Directed readings on American history from the Constitution through the end of the nineteenth century; required for students entering the field.

Rules & Requirements
Grading Status: Letter grade.

HIST 728. Introductory Colloquium in United States History since 1900. 3 Credits.
Directed readings on American history in the twentieth century; required for students entering the field.

Rules & Requirements
Grading Status: Letter grade.

HIST 730. Feminist and Gender Theory for Historians. 3 Credits.
Readings in contemporary feminist and gender theory, focused especially on theories that address the construction, writing, and general practice of history.

Rules & Requirements
Grading Status: Letter grade.
Same as: WGST 730.

HIST 735. Readings in the History of Sexuality and Gender. 3 Credits.
Readings on the historical study of gender and sexuality and on definitions of femininity and masculinity in different historical contexts.

Rules & Requirements
Grading Status: Letter grade.
Same as: WGST 735.

HIST 738. Women, Gender and Sexuality: Historiography and Method. 3 Credits.
This course will examine the origins, growth, and maturation of a field whose initial explorations sought simply to identify women's contributions to history, then began to conceptualize gender as a system that organized social relations, and most recently, has interrogated sexuality as practice and identity.

Rules & Requirements
Grading Status: Letter grade.

HIST 740. Graduate Readings in History of Law and Society. 3 Credits.
Introduces students to the study of law and society across world regions and time periods. Students will explore historical meaning of legal institutions and processes in social, political, and cultural contexts. Explores terms and concepts of legal history such as rule of law, legal pluralism, sovereignty, consent, and justice.

Rules & Requirements
Grading Status: Letter grade.

HIST 741. Readings in the History of Science and Medicine. 3 Credits.
Examines the principal historiographical problems in the history of science and medicine, focusing on a different topic each year.

Rules & Requirements
Grading Status: Letter grade.

HIST 742. History and Memory: An Introduction into Theory, Methodology, and Research. 3 Credits.
This graduate seminar explores the theory, methodology, and scholarship on history and memory, and examines some broad questions about the importance of studying collective memory. We will seek to understand both, different theoretical and methodological approaches, and their practical use in historical research and writing.

Rules & Requirements
Grading Status: Letter grade.

HIST 744. Politics of Human Rights in Global Perspective. 3 Credits.
This seminar explores the politics of human rights by examining practices of rights-claiming since the early modern period. Taking a global perspective, it examines varying and contested modalities of agency in articulating rights in the name imagined group identities (nation, religion, or civilization), sex, the individual, and the human.

Rules & Requirements
Grading Status: Letter grade.

HIST 746. History and the Social Sciences. 3 Credits.
The relationship of the social sciences to history, logic of inquiry, use of quantitative methods, and introduction to the computer.

Rules & Requirements
Grading Status: Letter grade.

HIST 750. Getting the Archive to Speak. 3 Credits.
In this introduction to the problem of the archive in theory and practice, we will consider basic challenges historians have confronted over the past half-century, examples of the resulting research strategies, and their advantages and limitations. What constitutes rigorous, ethical historical practice? How can we interpret fragmentary, partial, or misleading sources? What stories can - and should - we try to tell? We will draw on notable works in the historiographies of Africa, Europe, Asia, the Americas.

Rules & Requirements
Grading Status: Letter grade.

HIST 751. Problems in Greek History, 600-323 BCE. 3 Credits.
Permission of the instructor. This course introduces graduate students to problems in the use of literary, epigraphic, and archaeological sources for a range of issues, including religion, law, and warfare.

Rules & Requirements
Grading Status: Letter grade.

HIST 752. History of Rome, 27 BCE-180 CE. 3 Credits.
Readings, reports, and discussions on selected topics of current importance for the field. Topics to be announced in advance.

Rules & Requirements
Grading Status: Letter grade.

HIST 755. Readings in Medieval and Early Modern Women's History. 3 Credits.
A readings course on the history of women, gender, and sexuality in Medieval Europe.

Rules & Requirements
Grading Status: Letter grade.
Same as: WGST 755.

HIST 756. Medieval England. 3 Credits.
Rules & Requirements
Requisites: Prerequisite, HIST 437.
Grading Status: Letter grade.

HIST 757. Late Medieval England. 3 Credits.
Readings in English history, ca. 1300-1500, with a focus on social, economic, political, and legal topics.

Rules & Requirements
Requisites: Prerequisite, HIST 434.
Grading Status: Letter grade.

HIST 760. Europe in the 16th Century. 3 Credits.
A survey of the best historical literature emphasizing churches, varieties of secular power, and religious practice.

Rules & Requirements
Grading Status: Letter grade.

HIST 761. Readings in Early Modern European History. 3 Credits.
Selected readings and discussion of topics and relevant historiography in early modern Europe.

Rules & Requirements
Grading Status: Letter grade.

HIST 763. Early Modern Germany. 3 Credits.
A topical survey of the political, social, and economic history of early modern Germany.

Rules & Requirements
Grading Status: Letter grade.

HIST 765. Problems in the History of the French Revolution. 3 Credits.
Readings, reports, and discussion on aspects of the French Revolutionary upheaval in Europe.

Rules & Requirements
Grading Status: Letter grade.

HIST 770. Readings in Modern European Women's and Gender History. 3 Credits.
A readings course in the history of women in Europe since 1500.

Rules & Requirements
Grading Status: Letter grade.
Same as: WGST 770.

HIST 771. Topics in Modern European History. 3 Credits.
This course examines particular themes, events, and historiographical debates of Modern European History in a seminar setting.

Rules & Requirements
Grading Status: Letter grade.

HIST 772. Readings in the Intellectual History of Europe. 3 Credits.
A readings course on specific themes and debates in modern European intellectual life.

Rules & Requirements
Grading Status: Letter grade.

HIST 773. Readings in European Social History. 3 Credits.
This graduate readings course discusses classic works as well as recent landmark books about the development of European society in the 19th and 20th centuries.

Rules & Requirements
Grading Status: Letter grade.

HIST 774. Readings in Modern European History, 1918-1945. 3 Credits.
Directed readings, varying from year to year, selected from historiographical classics as well as the most recent scholarly publications.

Rules & Requirements
Grading Status: Letter grade.

HIST 775. Studies in Modern English History. 3 Credits.
Directed readings in 19th- and 20th-century English history. Topics vary from year to year.

Rules & Requirements
Grading Status: Letter grade.

HIST 776. Topics in French History. 3 Credits.
Open to graduate students from all departments. This course examines one period or one set of problems within French history since the Renaissance. Topics determined by instructor.

Rules & Requirements
Grading Status: Letter grade.

HIST 777. Colonialism and European Visual Culture, 1800-1990. 3 Credits.
Considers the role of visual representation in the construction of European empire and its associated knowledges from the Napoleonic expedition to Egypt to debates over primitivism in the 1980s.

Rules & Requirements
Grading Status: Letter grade.
Same as: ARTH 777.

HIST 781. Readings in Russian History, 1796-1917. 3 Credits.
Selected readings and discussion of various topics in the history of Russia from the late 18th century to the Russian Revolution.

Rules & Requirements
Grading Status: Letter grade.

HIST 782. Readings in Soviet History. 3 Credits.
A historiographical reading colloquium covering Soviet and post-Soviet Russian history, 1917-present. The course familiarizes students with Western, Soviet, and post-Soviet literature on the most important issues in Soviet history.

Rules & Requirements
Grading Status: Letter grade.

HIST 783. Introduction to Russian, Eurasian, and East European History. 3 Credits.
This interdisciplinary seminar provides an in-depth look at some of the major topics in modern Russian, East European, and Eurasian history.

Rules & Requirements
Grading Status: Letter grade.

HIST 784. Readings in East European History. 3 Credits.
Directed readings on modern East European history.

Rules & Requirements
Grading Status: Letter grade.

HIST 787. Readings in Modern Central Asian History. 3 Credits.
The peoples of Islamic Central Eurasia are united by linguistic, cultural, and religious ties. Their history is divided between study fields: Soviet/Russian, Chinese, and Islamic Studies. Course takes historiographical diversity as a point of departure, interrogating the major debates that have animated the study of Islamic Central Asia across disciplines.

Rules & Requirements
Grading Status: Letter grade.

HIST 810. Colonial Encounters. 3 Credits.
This course introduces students to a variety of theoretical and methodological approaches to the study of colonialism. It encourages them to examine critically the ways in which scholars apply and use the concepts of "coloniality" and "postcoloniality," and to assess the avenues through which those concepts might prove to be productive in informing their own research.

Rules & Requirements
Grading Status: Letter grade.

HIST 812. History of Muslim Societies in Asia and Africa. 3 Credits.
This graduate course will examine the intellectual, political and cultural history of Muslim societies since 1492 through the methodology and approaches of global history.

Rules & Requirements
Grading Status: Letter grade.

HIST 815. Topics in African History. 3 Credits.
A readings-based course on particular topics or approaches in African history. Topics may vary by semester and will be announced in advance.

Rules & Requirements
Grading Status: Letter grade.

HIST 816. Topics in Asian History. 3 Credits.
Instructors use this course to focus on particular topics or historical approaches related to Asian history.

Rules & Requirements
Grading Status: Letter grade.

HIST 820. Problems in Latin American History. 3 Credits.
Instructors use this course to focus on particular topics or approaches in Latin American history. Topics to be announced in advance.

Rules & Requirements
Grading Status: Letter grade.

HIST 821. Biography and Memoir in Modern Latin American History. 3 Credits.
This graduate seminar examines the role of biography and memoir in national-period Latin American historiography.

Rules & Requirements
Grading Status: Letter grade.

HIST 831. Readings in Early American History. 3 Credits.
Selected readings and research in United States history and its multicultural dimensions up to the American Revolution.

Rules & Requirements
Grading Status: Letter grade.

HIST 832. The American Revolutionary Era, 1763-1789. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.

HIST 833. The United States in the Federal Period, 1789-1820. 3 Credits.
Readings, discussion, and book lists designed to give familiarity with the historiographical problems, research opportunities, and bibliography of the period.

Rules & Requirements
Grading Status: Letter grade.

HIST 834. The United States in the Middle Period, 1815-1860. 3 Credits.
An analysis of the material and ideological transformations within the antebellum republic, which climaxed in the sectional crisis of the 1850s.

Rules & Requirements
Grading Status: Letter grade.

HIST 835. Readings in the Antebellum South. 3 Credits.
A review of traditional and modern literature on the pre-Civil War South, focusing on the interrelationships of its economy, society, culture, and politics.

Rules & Requirements
Grading Status: Letter grade.

HIST 840. Civil War and Reconstruction, 1860-1876. 3 Credits.
An intensive readings course on key works comprising the core historiography for Civil War-Reconstruction America. Discussions, short papers, and a 20-page historiographical paper comprise the bulk of the assignments.

Rules & Requirements
Grading Status: Letter grade.

HIST 841. Readings in the South since Reconstruction. 3 Credits.
Readings, reports, and discussions on selected topics with a view to gaining familiarity with the literature of the field.

Rules & Requirements
Grading Status: Letter grade.

HIST 842. Political and Social History of Modern America. 3 Credits.
A course of readings for advanced students that relate social history to the history of the state in America in the period from the Great Depression and the New Deal to the present.

Rules & Requirements
Grading Status: Letter grade.

HIST 845. Readings in United States Labor History. 3 Credits.
A graduate reading seminar on the history of America's workers from the 20th century to the present. The struggle of American workers to achieve a measure of dignity and security is examined from social, economic, and political perspectives. The course critically evaluates recent scholarship in the field of labor history.

Rules & Requirements
Grading Status: Letter grade.

HIST 860. Colloquium in United States Military History. 3 Credits.
Reading colloquium in United States military history focusing on the most significant issues, methods, and approaches in the field today.

Rules & Requirements
Grading Status: Letter grade.

HIST 861. History of United States Foreign Relations. 3 Credits.
Readings and research exploring various topics in modern American foreign relations and diplomacy.

Rules & Requirements
Grading Status: Letter grade.

HIST 863. Readings in Urban History. 3 Credits.
A readings course to introduce students to the main topics in urban history.

Rules & Requirements
Grading Status: Letter grade.

HIST 864. 19th and 20th Century American Labor History. 3 Credits.
Graduate reading seminar in American labor history intended for students doing research as well as those writing M.A. and doctoral theses. Graduate students from fields other than United States history welcome. Students will read texts and articles by scholars in a wide variety of fields of American labor history.

Rules & Requirements
Grading Status: Letter grade.

HIST 865. Readings in United States Women's and Gender History. 3 Credits.
A readings course on the history of women and gender in the United States.

Rules & Requirements
Grading Status: Letter grade.
Same as: WGST 865.

HIST 870. Readings in African American History. 3 Credits.
Graduate students compile bibliographies and read important contributions to various aspects of African American history, stressing shifts in African American historiography and including very recent works.

Rules & Requirements
Grading Status: Letter grade.

HIST 875. Topics in American Cultural History. 3 Credits.
Research seminar exploring various topics in United States cultural history to be announced in advance.

Rules & Requirements
Grading Status: Letter grade.

HIST 878. Readings in Native American History. 3 Credits.
Readings in and discussions of the major works in Native American history.

Rules & Requirements
Grading Status: Letter grade.
Same as: AMST 878.

HIST 880. Readings in the Global History of Capitalism. 3 Credits.
This course exposes graduate students to the classical and burgeoning debates among historians over the history of global capitalism around the world from its antecedents in the medieval and early modern period until the present.

Rules & Requirements
Grading Status: Letter grade.

HIST 890. Topics in History for Graduates. 3 Credits.
Instructors use this course to focus on particular topics or historical approaches. Specific course descriptions are available each semester on the departmental Web site (www.unc.edu/depts/history).

Rules & Requirements
Grading Status: Letter grade.

HIST 899. Independent Study for Graduate Students. 3 Credits.
Permission of the instructor. Independent reading programs for graduate students whose needs are covered by no course immediately available. For students resident in Chapel Hill or vicinity.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

HIST 900. Crafting a Historical Project. 3 Credits.
Intended to help students develop a plan of research and writing, select a bibliography, develop an understanding of the literature available for their topic, and articulate a problem or facet of the topic to which they can contribute original research in their M.A. thesis.

Rules & Requirements
Grading Status: Letter grade.

HIST 901. M.A. Research Seminar. 3 Credits.
A seminar for those preparing the M.A. thesis. Pursuing original research in primary sources, students prepare full drafts of their theses.

Rules & Requirements
Grading Status: Letter grade.

HIST 902. Writing for Historians: A Seminar on the Craft of Historical Writing. 3 Credits.
Doctoral students focus intensively on the writing process to produce an article-length piece of work suitable for publication. Topics include quotation, translation, narrative technique, structuring argument, and addressing a wide audience.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

HIST 905. Dissertation Design. 3 Credits.
Required of all doctoral candidates in the last semester of course work, this practicum helps students refine a dissertation topic and produce a prospectus.

Rules & Requirements
Grading Status: Letter grade.

HIST 906. Dissertation Seminar. 3 Credits.
A seminar for A.B.D. students, offered as demand and resources permit.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

HIST 910. Ancient History. 3 Credits.
Research seminar on selected topics of current importance for the field. Topics to be announced in advance.

Rules & Requirements
Grading Status: Letter grade.

HIST 911. Medieval Dissertation Design. 3 Credits.
This course complements HIST 905, focusing on specific skills, sources, and methods for designing a dissertation prospectus in the field of medieval European history.

Rules & Requirements
Grading Status: Letter grade.

HIST 912. Historiography and Narrative: Ancient, Medieval and Early Modern. 3 Credits.
This course involves the close study of narrative historiographical texts before 1700. It introduces students to narratological approaches to textual analysis as well as to scholarly work, in a variety of disciplines, on the question of memory. The course is interdisciplinary in its orientation.

Rules & Requirements
Grading Status: Letter grade.

HIST 915. Research Seminar in African History. 3 Credits.
Intended to accommodate students at various stages in their graduate careers, this multipurpose seminar will focus on problems in modern African history.

Rules & Requirements
Grading Status: Letter grade.

HIST 924. Seminar in Modern European History. 3 Credits.
This writing seminar explores the process of working with primary sources, creating a narrative, and shaping an interpretation based on examples from the last two centuries of European history.

Rules & Requirements
Grading Status: Letter grade.

HIST 925. Seminar in Russian and East European History. 3 Credits.
A multi-purpose writing seminar on Russian and Soviet history in which students may write a seminar paper, M.A. thesis, dissertation prospectus, or dissertation chapter.

Rules & Requirements
Grading Status: Letter grade.

HIST 930. American Revolution, 1763-1789. 3 Credits.
Research seminar exploring various topics related to United States history in the late 18th century around the time of the American Revolution.

Rules & Requirements
Grading Status: Letter grade.

HIST 948. Research in Native American History. 3 Credits.
This course introduces graduate students to research methods in Native American history, including the methodology of ethnohistory and the techniques of compiling a source base, taking notes, and outlining.

Rules & Requirements
Grading Status: Letter grade.
Same as: AMST 948.

HIST 951. Research Seminar in Military History. 3 Credits.
Introduction to research that should result in a major research product. Students will alternate reading classic texts in military history with discussions of project conceptualization and research strategies.

Rules & Requirements
Grading Status: Letter grade.

HIST 952. Advanced Seminar in Military History. 3 Credits.
A research seminar designed to bring major projects (usually an M.A. thesis) to completion.

Rules & Requirements
Grading Status: Letter grade.

HIST 971. Seminar in Latin American History. 3 Credits.
All students will be required to complete an original research paper based on use of primary sources on a Latin American topic corresponding to the theme of the seminar to be announced in advance.

Rules & Requirements
Grading Status: Letter grade.

HIST 975. Seminar in Women's and Gender History. 3 Credits.
Writing seminar for graduate students on all levels who work on the history of women and gender.

Rules & Requirements
Grading Status: Letter grade.
Same as: WGST 975.

HIST 990. Seminar in History. 3 Credits.
Given on demand and as resources permit, this seminar allows faculty to respond to student interest in particular topics.

Rules & Requirements
Grading Status: Letter grade.

HIST 993. Master's Research and Thesis. 3 Credits.
Individual work on the M.A . thesis, pursued under the supervision of the M.A. advisor.

Rules & Requirements
Repeat Rules: May be repeated for credit.

HIST 994. Doctoral Research and Dissertation. 3 Credits.
Individual work on the doctoral dissertation, pursued under the supervision of the Ph.D. advisor.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.

Contact Information

Department of History
Visit Program Website (https://history.unc.edu/)

Chair
Lisa A. Lindsay

HUMAN MOVEMENT SCIENCE CURRICULUM (GRAD)

The Department of Health Sciences in the School of Medicine offers an interdisciplinary program of study in human movement science leading to the doctor of philosophy degree. The intent of this program is to develop research and teaching scholars who are capable of producing and disseminating new knowledge in the field of human movement science. The curriculum combines core requirements for all students in the program while allowing for considerable flexibility in designing programs of study to meet the needs of a specific area of concentration and the students' interests.

The doctoral program in human movement science is offered through the cooperative effort of the Division of Physical Therapy (UNC School of Medicine) and the Department of Exercise and Sport Science (College of Arts and Sciences). This program is designed to provide students an opportunity for doctoral study in areas that will increase our knowledge of human movement. The program focuses on contributing to the scientific basis of human movement and developing theory and methods for maintaining health, preventing disability, and improving movement ability. Focusing on normal movement and movement disability requires a special emphasis in research and education that draws upon yet differs from the focus of related sciences. Students of varied academic disciplines are accepted into the program. Students in our program study across several areas of interest in human movement:

- Biomechanics
- Brain injury / concussion
- Exercise physiology
- Injury prevention
- Neuromuscular control and motor learning
- Rehabilitation (musculoskeletal, neurological)

Research Facilities

Several research facilities are available for students in the departments participating in the program. These include the Recovery of Gait and Neurorehabilitation (ReGaiN) and Cassidy Plasticity Laboratories in the Division of Physical Therapy, and the Applied Physiology, Integrative Exercise Oncology Lab, MOTION Science Institute, STAR Heel Laboratory, and the Matthew Gfeller Sport-Related Traumatic Brain Injury Research Center in the Department of Exercise and Sport Science. These laboratories are equipped with state-of-the-art instruments for measuring a range of human movement and performance through behavioral, physiological, biomechanical, cognitive, sensory, and computer modeling instrumentation.

Admission

Student selection is based primarily on academic records and research experience. Requirements include the following:

- At least one core HMSC faculty member has agreed that he/she may serve as the applicant's mentor if the applicant is admitted to the program. This is not a guarantee of admission, but an indication that the faculty member has endorsed the application.
- A master's degree in a field related to human movement (e.g., physical therapy, exercise science, athletic training, biomedical engineering, anatomy, etc.) is preferred. In rare circumstances, qualified candidates with a bachelor's degree will be considered for admission.
- A grade point average of 3.0 or better in the last two years of the student's most recent degree program. A typical student who is admitted has a 3.4 GPA or better.
- Coursework in the following areas, completed within the past five years, is a prerequisite for admission. Completion of coursework in these areas longer than five years ago may require completion of an admissions examination.
  - Statistics
  - Human anatomy
  - Human physiology

AND at least **one** of the following courses:

  - Physics
  - Biomechanics
  - Chemistry
  - Psychology
  - Exercise physiology
  - Motor learning/motor control/ neuromuscular control
  - Neuroanatomy

- Three letters of academic recommendation
- Curriculum vitae
- Written statement of the academic/career goals and research interests
- Name of the faculty member who has agreed to mentor the applicant. (Applicants should contact a faculty member in their area of interest prior to beginning the application process.)

Human Movement Science, Ph.D.

A key feature of this program is the interdisciplinary orientation of the combined efforts of several successful programs on the UNC – Chapel Hill campus. We believe that the advancement of the science of human movement can best be accomplished with methods and researchers across disciplines. Human movement is inherently complex and dynamic and is the product of biological, mechanical, behavioral, and environmental systems. The dynamic and complex nature of human movement provides an organizational perspective for the curriculum. Specific features of this organizing perspective include:

- An emphasis on developing and testing theory of normal and dysfunctional human movement;
- Applying these and other theories of movement to maintaining and improving human movement;
- Recognizing the multifactorial nature of human movement;
- An interdisciplinary approach to solving problems of human movement;
- Studying movement at multiple levels of analysis; and
- Addressing the unique movement problems associated with injury, disease, development and aging.

Course Requirements

Code	Title	Hours
Core Courses		
2 of the following courses: [1]		6
HMSC 700	Scientific Basis of Human Motion	

HMSC 701	Scientific Basis of Human Motion	
HMSC 702	Physiology of Exercise	
IHMS 870	DOCTORAL SEMINAR IN HUMAN MOVEMENT SCIENCE [2]	4
1 course in research design [3]		2
EPID 600	Principles of Epidemiology for Public Health	
HMSC 886	Understanding Research	
HSCI 902	Philosophical Foundations: Assumptions Guiding Research Methodologies	
HSCI 904	Quantitative Foundations: Alternative Designs, Types of Knowledge, Generalization	
2 graduate level statistics courses [3]		6
BIOS 660	Probability and Statistical Inference I	
BIOS 661	Probability and Statistical Inference II	
BIOS 635	Introduction to Machine Learning	
BIOS 665	Analysis of Categorical Data	
EDUC 784	Intermediate Statistical Methods	
EPID 710	Fundamentals of Epidemiology	
EPID 716	Epidemiologic Data Analysis	
NURS 918	Intermediate Statistics: Regression Analysis	
PSYC 834	Machine Learning	
1 course in grant writing [3]		3
DPOP 872	Proposal Writing in DPOP	
HSCI 909	Proposal and Grant Writing	
KIN 709 (UNCG Course)		
Electives (Advanced HMSC)		
Any classes offered at UNC above 500 or equivalent courses at other institutions. Multiple Independent Study courses (HMSC 877) can be taken, but only 1 can be used toward the advanced HMSC content area.		6
Thesis/Substitute or Dissertation		
IHMS 994	Doctoral Research and Dissertation	9
Minimum Hours		**36**

[1] Students with previous, relevant undergraduate or master's experience may have the option of substituting one of these courses with consultation with the DGS and program coordinator.
[2] Students must take this 1-credit hour class four times.
[3] For alternative courses please consult your DGS and program coordinator.

Milestones

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 27) for more information.

- Doctoral Written Exam
- Doctoral Oral Comprehensive Exam
- Doctoral Committee
- Prospectus Oral Exam
- Dissertation Defense
- Doctoral Dissertation Approved/Format Accepted
- Residence Credit
- Doctoral Exit Survey

Professors

Claudio Battaglini, Management of Cancer Treatment-Related Symptoms; Prescriptive Exercise Intervention
Troy Blackburn, Neuromuscular Function and Motor Control; Knee Osteoarthritis Prevention
Anthony C. Hackney, Exercise Endocrinology–Stress Physiology
Joseph Hart, Neuromuscular Consequences of Joint Injury; Knee Osteoarthritis Prevention
Kristen Kucera, Sport and Occupational Injury Epidemiology, Including Musculoskeletal Disorders, Ergonomics, Return to Work
Karen McCulloch, Balance and Cognitive Interactions in Older Adults and Following Traumatic Brain Injury; Effects of Military Mild Traumatic Brain Injury on Balance and Cognitive Function, Including Dual-Task Performance and Return to Duty Implications
Jason Mihalik, Sports Medicine, Sports and Military Neurotrauma
Brian Pietrosimone, Sports Medicine; Knee Osteoarthritis
Eric Ryan, Exercise Physiology; Exercise Adaptation, Nutritional Supplementation, and Aging on Neuromuscular Function
Abbie Smith-Ryan, Exercise Physiology; Exercise and Nutrition Interventions; Body Composition
Darin Padua, Biomechanics and Sports Medicine; Knee Injury Prevention

Associate Professors

J.D. DeFreese, Athlete Psychological and Physical Health and Social Functioning
Erik Hanson, Exercise Physiology, Exercise Testing and Training in Clinical Populations; Exercise Oncology and Immunology
Zachary Kerr, Sports Injury Surveillance; Sports-Related Injury Prevention
Michael Lewek, Stroke Rehabilitation; Biomechanics; Neuromuscular Function
Johna Register-Mihalik, Traumatic Brain Injury – Negative Consequences, Prevention, Education and Clinical Management
Lee Stoner, Interactions Between Lifestyle Behavioural Factors and Cardio-Metabolic Disorders; Assessing Cardio-Metabolic Health; Translation of Basic and Applied Science to Affect Public Health Outcomes
Erik Wikstrom, Impact of Musculoskeletal Injury on Sensorimotor Control of the Lower Extremity; Ankle Joint Injury

Assistant Professors

Shelby Baez, Consequences of Maladaptive Psychological Responses to Injury; Interventions on Cognitive Behavior Following Joint Injury
Jimakaye Beck Courtney, Engagement in Health Behaviors, Physical Activity, Alcohol
Malia Blue, Cardiometabolic Health in Racial and Ethnic Populations, Body Composition, Performance, Injury Risk
Jessica Cassidy, Neuroimaging and Neurostimulation in Neurological Disease, Injury, and Development
Adam Kiefer, Performance Enhancement and Injury Prevention in Sport
Louise Thoma, Optimizing Rehabilitation and Recovery After Orthopedic Injury and Surgery

Affiliated Faculty

Jacqueline H. Cole, Department of Biomedical Engineering
Jason Franz, Department of Biomedical Engineering
Steven George, Duke Clinical Research Institute, Department of Orthopedic Surgery
Kelly Giovanello, Department of Psychology and Neuroscience
Richard Goldberg, Department of Biomedical Engineering
Yvonne Golightly, Department of Epidemiology

Joseph Hopfinger, Department of Psychology
He Huang, Department of Biomedical Engineering
Laura Linnan, Department of Health Behavior
Stephen Marshall, Gillings School of Global Public Health
Michelle Meyer, Department of Emergency Medicine
Deborah Porterfield, Department of Family Medicine

HMSC 700. Scientific Basis of Human Motion. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.

HMSC 701. Scientific Basis of Human Motion. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.

HMSC 702. Physiology of Exercise. 3 Credits.
The study of the physical, biochemical, and environmental factors that influence human performance. Emphasis is placed on metabolic, cardiovascular, respiratory, muscular, and endocrine systems. Three hours of lecture and two hours of laboratory per week.

Rules & Requirements
Requisites: Prerequisites, EXSS 256 or EXSS 276 or EXSS 376.
Grading Status: Letter grade.
Same as: EXSS 780.

HMSC 710. Measurement of Muscle Function. 3 Credits.
This course will look at basic concepts related to the physiology underlying muscle activity and appropriate measurements of muscle function, while at the same time introduce you to data acquisition, analysis, and programming approaches to collecting and analyzing relevant muscle-function data.

Rules & Requirements
Grading Status: Letter grade.

HMSC 743. Topics in Motor Control and Motor Learning: Therapeutic Implications. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.

HMSC 770. Electronics for Human Movement Science. 1-21 Credits.
Rules & Requirements
Grading Status: Letter grade.

HMSC 780. Introduction to Outcomes Research in Health Care. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.

HMSC 782. Infant and Family Assessment. 2-3 Credits.
Rules & Requirements
Grading Status: Letter grade.

HMSC 782L. Laboratory in Infant and Family Assessment. 0.5-21 Credits.
Rules & Requirements
Grading Status: Letter grade.

HMSC 790. Advanced Kinesiology and Biomechanics. 4 Credits.
Rules & Requirements
Grading Status: Letter grade.

HMSC 791. Analysis of Human Motion. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.

HMSC 793. Advanced Ortho Assessment. 4 Credits.
Rules & Requirements
Grading Status: Letter grade.

HMSC 795. Human Kinetics. 4 Credits.
Rules & Requirements
Grading Status: Letter grade.

HMSC 801. Seminar in Human Movement Science. 2 Credits.
Rules & Requirements
Grading Status: Letter grade.

HMSC 803. Problems in Human Movement Science. 1-3 Credits.
Rules & Requirements
Grading Status: Letter grade.

HMSC 877. Independent Study in Human Movement Science. 1-21 Credits.
Rules & Requirements
Grading Status: Letter grade.

HMSC 879. Research in Human Movement Science. 1-21 Credits.
Rules & Requirements
Grading Status: Letter grade.

HMSC 881. The Neural Basis of Motor Control. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.

HMSC 885. Beach Course. 1-3 Credits.
Human movement seminar held at the beach.

Rules & Requirements
Grading Status: Letter grade.

HMSC 886. Understanding Research. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.

HMSC 887. Developmental Motor Control. 1-3 Credits.
Rules & Requirements
Grading Status: Letter grade.

HMSC 900. Research in Human Movement Science. 1-3 Credits.
This course is designed to provide doctoral students within the Human Movement Science Curriculum with academic credit(s) to conduct research under the guidance of a research mentor.

Rules & Requirements
Grading Status: Letter grade.

HMSC 911I. Movement and Balance in Aging. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.

HMSC 993. Master's Research and Thesis. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

Course work appropriate for the student's area of interest may be taken from a range of departments. The programs listed here are examples, but are not meant to be inclusive: Biomedical Engineering (BMME) (p. 484) and Exercise and Sport Science (EXSS) (p. 484). (Please refer to departmental listings for full course descriptions.)

BMME (Biomedical Engineering)

Graduate-level Courses

BMME 335. Biomaterials. 3 Credits.
Focus on the mechanical, chemical, and biocompatibility considerations of any material (e.g., metal, ceramic, or polymer) designed to interface with the body. Various applications of biomaterials are presented and analyzed, including femoral implants and vascular grafts, in order to guide students in a semester-long design project. Previously offered as BMME 510. Majors only.

Rules & Requirements
Requisites: Prerequisites, BIOL 101 and BMME 209 or BMME 150.
Grading Status: Letter grade.

BMME 375. Biomedical Microcontroller Applications. 3 Credits.
Introduction to digital computers for real-time processing and control of signals and systems. Programming input and output devices using C and assembly language is stressed. Case studies are used to present software design strategies for real-time laboratory systems. Previously offered as BMME 580. Majors only.

Rules & Requirements
Requisites: Prerequisite, BMME 201 or COMP 116, BMME 207.
Grading Status: Letter grade.

BMME 565. Biomedical Instrumentation I. 4 Credits.
Graduate students or permission of the instructor. Topics include basic electronic circuit design, analysis of medical instrumentation circuits, physiologic transducers (pressure, flow, bioelectric, temperate, and displacement). This course includes a laboratory where the student builds biomedical devices.

Rules & Requirements
Grading Status: Letter grade.

EXSS (Exercise and Sport Science)

Graduate-level Courses

EXSS 730. Management of Athletic Injuries. 3 Credits.
Permission of the instructor for nonmajors. Designed to provide basic knowledge and skills that aid in the prevention and treatment of injuries common to athletics.

Rules & Requirements
Grading Status: Letter grade.

EXSS 732. Human Anatomy for Athletic Trainers. 4 Credits.
Graduate standing in exercise and sport science or permission of the instructor. The study of gross human anatomy, with emphasis on the functional and clinical aspects of the neck, back, and extremities as related to athletic injuries.

Rules & Requirements
Grading Status: Letter grade.

EXSS 735. Sports Medicine Analysis: Special Problems Related to Sports Medicine. 3 Credits.
Permission of the instructor for nonmajors. Problem and research oriented.

Rules & Requirements
Grading Status: Letter grade.

EXSS 739. Practicum in Exercise, Sport, and Movement Science. 1-3 Credits.
Graduate standing in exercise and sport science or permission of the instructor. The implementation of theories and practices in a professional setting under the direction of a professional with expertise in exercise, sport and/or movement science.

Rules & Requirements
Repeat Rules: May be repeated for credit. 3 total credits. 3 total completions.
Grading Status: Letter grade.

EXSS 742. Social Issues in Exercise and Sport. 3 Credits.
A comprehensive study of race and gender discrimination, adherence, value development, violence, and other socialization factors in youth, collegiate, and Olympic sport.

Rules & Requirements
Grading Status: Letter grade.

EXSS 780. Physiology of Exercise. 3 Credits.
The study of the physical, biochemical, and environmental factors that influence human performance. Emphasis is placed on metabolic, cardiovascular, respiratory, muscular, and endocrine systems. Three hours of lecture and two hours of laboratory per week.

Rules & Requirements
Requisites: Prerequisites, EXSS 256 or EXSS 276 or EXSS 376.
Grading Status: Letter grade.
Same as: HMSC 702.

EXSS 781. Clinical Exercise Prescription and Testing. 2-3 Credits.
This course concentrates on the knowledge and skills necessary for providing exercise testing and prescription in the clinical setting, emphasizing cardiac rehabilitation.

Rules & Requirements
Requisites: Prerequisite, EXSS 376; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

EXSS 782. Nutritional Aspects of Exercise. 2-3 Credits.
Graduate standing in physical education or permission of the instructor. Exploration of the role of macronutrients and micronutrients as they apply to exercise, physical conditioning, and competition. Students obtain experience in dietary analysis as it applies to athletic populations.

Rules & Requirements
Grading Status: Letter grade.

EXSS 783. Assessment of Physiological Functions in Exercise. 3 Credits.
Designed to develop laboratory techniques and experimental design skills as applied to the physiology of human performance.

Rules & Requirements
Requisites: Prerequisite, EXSS 780; Permission of the instructor for students lacking the prerequisite.
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

EXSS 785. Seminar in Exercise Physiology. 3 Credits.
Graduate standing in exercise and sport science or permission of the instructor. In-depth study of selected advanced topics in exercise physiology. Emphasis on metabolism, biochemical, and cardiorespiratory physiology, with student presentations on selected topics.

Rules & Requirements
Grading Status: Letter grade.

EXSS 890. Special Topics in Exercise and Sport Science. 1-3 Credits.
Graduate standing or permission of the instructor. The study of special topics directed by an authority in the field.

Rules & Requirements
Grading Status: Letter grade.

EXSS 990. Research in Exercise and Sport Science. 1-3 Credits.
Graduate standing in exercise and sport science or permission of the instructor. Individually designed research projects conducted by students under the direction of a graduate faculty member.

Rules & Requirements
Grading Status: Letter grade.

Contact Information

Human Movement Science Curriculum
Visit Program Website (http://hmsc.unc.edu)

Director
Erik Wikstrom
wikstrom@unc.edu

Associate Director
Mike Lewek
mlewek@med.unc.edu

SCHOOL OF INFORMATION AND LIBRARY SCIENCE (GRAD)

The programs of the School of Information and Library Science (SILS) are designed to prepare students for professional employment and advanced study in the fields of information and library science. The school offers graduate instruction leading to the degrees of master of science in information science (M.S.I.S.), master of science in library science (M.S.L.S.), master of professional science degrees (M.P.S) in digital curation and management, biomedical and health informatics, a doctor of philosophy (Ph.D.) in information and library science, and a doctor of philosophy (Ph.D) in health informatics. The school also offers an undergraduate major in information science (B.S.I.S.) and an undergraduate minor in information systems. Within these degree programs, students complete a core set of courses and build their own specialized program of studies on this foundation.

The goal of the M.S.I.S. program is to enable students to contribute to the design, development, and maintenance of information systems and networks; lead the development of new technologies and new applications relating to the delivery of information; and demonstrate a theoretical knowledge of information science, including the theory of information storage and retrieval, systems science, and social, cultural, political, and ethical implications of information systems.

With an M.S.I.S. degree, students find jobs in areas that include (among others) information system analysis design, development, and support; database design and administration; user experience design (including interface design and usability testing); website design and management; social media; information resource and knowledge management; information security; and competitive intelligence.

The goal of the M.S.L.S. program is to help students become leaders in the dynamic world of libraries and information organizations as they change to address 1) the needs of communities that are becoming more diverse, 2) an increasing multiplicity of information formats and technologies, and 3) technological and social factors impacting access to information and knowledge. Students will gain proficiency in the theories and practices used in libraries, archives, and other cultural institutions, including effective communication across differing ethical, cultural, political, social, and emotional perspectives.

Typical job titles for graduates include archives manager, records manager, digital librarian, documents librarian, cataloger, public and reference services librarian, school librarian, acquisitions and collection manager, youth librarian, community engagement/outreach librarian, database administrator, special collections librarian, academic library subject specialist, library director, and systems librarian.

The 48 credit hours of coursework is selected, in consultation with the student's faculty advisor, from the information and library science curriculum or, as appropriate, from related subject fields in other schools and departments of the University or at neighboring universities. A master's paper or practicum project (INLS 992) is also required of each master's student.

Graduate certificates within either the M.S.L.S. or the M.S.I.S. are available in the areas of: applied data science, biomedical imaging science, bioinformatics, computational linguistics, digital curation, digital humanities, and public health informatics. A program leading to a certificate as a school library media coordinator is also available as part of the M.S.L.S.

The School of Information and Library Science participates in several dual or cooperative degree programs. Participation in any dual-degree program requires separate admission to both degree programs. These include dual-degree programs with:

- the Department of Health Policy and Management, Gillings School of Global Public Health, which combines the master of health administration (M.H.A.) or the masters of science in public health (MSPH) degree with either the M.S.L.S. or M.S.I.S.
- the Department of Art, which combines the master of arts in art history (M.A.) with either the M.S.I.S. or M.S.L.S. degree
- the School of Government, which combines the master of public administration (M.P.A.) with either the M.S.I.S. or M.S.L.S. degree
- the School of Law, which combines the juris doctor (J.D.) degree with either the M.S.L.S. or the M.S.I.S degree
- A cooperative program allows students to combine the master of arts (M.A.) in public history at North Carolina State University with either the M.S.L.S. or the M.S.I.S.
- A fast track B.S.I.S to M.S.I.S or M.S.L.S degree
- A fast track B.S. in Environmental Science or B.A. in Environmental Studies to M.S.I.S

The basic requirement for admission to the master's programs is a bachelor's degree from a recognized college or university. The student's undergraduate work should demonstrate a strong foundation in liberal arts and sciences. Each master's student is expected to enter the program with a foundation in the basic technological tools (e.g., HTML, CSS, databases) employed in the field. Applicants must meet the requirements for The Graduate School. For details about the entrance requirements and the curriculum for the master's programs, see the program descriptions available on the school's website (https://sils.unc.edu/academics-and-admissions/).

The professional science master's (P.S.M.) in biomedical and health informatics is an interdisciplinary program that prepares the next generation of health informatics leaders. The degree consists of 35 credits and requires about 1.5 academic years (17 months) of full-time study or 2(+) years of part-time study to complete. There are two tracks: public health informatics and clinical informatics. Students in each program track complete a practicum consisting of an internship in a health care, public health, health research, or health information technology organization that includes a project synthesizing knowledge gleaned from the entire program curriculum.

The master of professional science (M.P.S) in digital curation and management is a 30-credit-hour, online degree that focuses on digital curation. A comprehensive, project-oriented curriculum allows students to develop the core skills, knowledge, and competencies for ensuring the longevity, authenticity, discoverability, and usability of digital assets.

The doctor of philosophy (Ph.D.) in health informatics is a 55-credit, interdisciplinary program that emphasizes advanced database management, analytics methods and evaluation, and human-computer interactions in health informatics.

The doctor of philosophy in information and library science (Ph.D.) is a research degree. Thus, the purpose of the doctoral program in SILS is to educate scholars who are capable of addressing problems of scholarly consequence in the field of information and library science. Each

student will develop a program of studies that is tailored to individual interests and career goals. Required classes include a one semester seminar on research issues and questions (INLS 881) and completion of a course in statistics. Additional courses in research methods and theory development are recommended, as are research experience and substantive content courses that are related to a student's research interests. There are also opportunities for students to develop teaching skills through both coursework and teaching experience.

The school is located in Manning Hall, which houses classrooms as well as the administrative and faculty offices; ibiblio.org (http://ibiblio.org), one of the most popular Web sites on the Internet; Center for Information, Technology and Public Life (http://citap.unc.edu/) (CITAP) is a bold initiative at the University of North Carolina at Chapel Hill dedicated to researching, understanding, and responding to the growing impact of the internet, social media, and other forms of digital information sharing; The Center for Technology Policy (CTP) seeks to craft public policy for a better internet. Utilizing an interdisciplinary academic framework, CTP works to identify knowledge gaps and develop actionable policy frameworks that will enable us to realize the potential benefits of technology while minimizing its harms and the Information and Technology Resource Center (ITRC). The ITRC includes the Information and Library Science Library, which holds more than 100,000 volumes. Those interested in any of the SILS degree programs should consult the SILS website (http://sils.unc.edu) or request information from the School of Information and Library Science, CB #3360, 100 Manning Hall, The University of North Carolina at Chapel Hill, Chapel Hill, N.C. 27599-3360. E-mail: info@ils.unc.edu. (info@ils.unc.edu)

Master of Science in Library Science

The goal of the M.S.L.S. program is to help students become leaders in the dynamic world of libraries and information organizations as they change to address 1) the needs of communities that are becoming more diverse, 2) an increasing multiplicity of information formats and technologies, and 3) a global perspective toward knowledge barriers and access. Students should be proficient in the theories and practices used in libraries, archives, and other cultural institutions, including effective communication across differing ethical, cultural, political, social, and emotional perspectives.

Typical job titles for graduates include library director, archives manager, records manager, digital librarian, documents librarian, cataloger, public and reference services librarian, school librarian, acquisitions and collection manager, children's librarian, database administrator, special collections librarian, academic library subject specialist, and systems librarian.

The 48 credit hours of coursework is selected, in consultation with the student's faculty advisor, from the information and library science curriculum or, as appropriate, from related subject fields in other schools and departments of the University or at neighboring universities. A master's paper or project (INLS 992) is also required of each master's student. A theme within the curriculum for both master's degrees is evidence-based practice, which requires students to interpret and apply existing research to their professional situations, as well as to design and conduct their own research where necessary data is not otherwise available.

Course Requirements

Code	Title	Hours
Core Courses		**12**
INLS 776	Ethics, Values, and Society	3
INLS 777	Perspectives on Information, Technology, and People	3
Course Bins		**18**
Two courses from the information bin		6
Two courses from the services and organizations bin		6
One course from the technology bin		3
One course from the people and communities bin		3
Electives		**18**
6 elective courses of the student's choice. These courses can be all INLS courses or a combination of SILS courses and up to 12 hours of non-SILS courses that are numbered 400 and up.		
Thesis/Substitute or Dissertation		
INLS 778	Research Methods and Proposal Development	3
or INLS 779	Practicum Project Development	
INLS 992	Master's (Non-Thesis)	3
Minimum Hours		**48**

Information bin

Code	Title	Hours
INLS 509	Information Retrieval	
INLS 513	Resource Selection and Evaluation	
INLS 515	Consumer Health Information	
INLS 520	Organization of Information	
INLS 530	Young Adult Literature and Related Materials	
INLS 609	Experimental Information Retrieval	
INLS 620	Web Information Organization	
INLS 625	Information Analytics	
INLS 707	Government Information	
INLS 708	Law Libraries and Legal Information	
INLS 714	Introduction to Information Analytics	
INLS 720	Metadata Architectures and Applications	
INLS 732	Children's Literature and Related Materials	
INLS 749	Art and Visual Information Management	
INLS 755	Archival Appraisal	
INLS 757	Principles and Practices in Archival Description	
INLS 842	Seminar in Popular Materials in Libraries	
INLS 857	Seminar in Rare Book Collections	

Services and Organizations bin

Code	Title	Hours
INLS 501	Information Resources and Services	
INLS 525	Electronic Records Management	
INLS 556	Introduction to Archives and Records Management	
INLS 558	Principles and Techniques of Storytelling	
INLS 582	Systems Analysis	
INLS 585	Management for Information Professionals	
INLS 624	Policy-Based Data Management	
INLS 685	Project Management: Strategy and Applications	
INLS 700	Scholarly Communication	
INLS 711	Crisis Management for Libraries	

INLS 719	Usability Testing and Evaluation
INLS 721	Cataloging Theory and Practice
INLS 733	Administration of Public Library Work with Children and Young Adults
INLS 740	Digital Libraries: Principles and Applications
INLS 782	Library Assessment
INLS 783	Library Instruction & Pedagogy
INLS 841	Seminar in Academic Libraries
INLS 843	Seminar in Public Libraries

Technology bin

Code	Title	Hours
INLS 465	Understanding Information Technology for Managing Digital Collections	
INLS 512	Applications of Natural Language Processing	
INLS 523	Introduction to Database Concepts and Applications	
INLS 534	Youth and Technology in Libraries	
INLS 541	Information Visualization	
INLS 560	Programming for Information Science	
INLS 561	Digital Forensics for Curation of Digital Collections	
INLS 570	Fundamentals of Programming Information Applications	
INLS 572	Web Development I	
INLS 613	Text Mining	
INLS 623	Database Systems II: Intermediate Databases	
INLS 641	Visual Analytics	
INLS 672	Web Development II	
INLS 718	User Interface Design	
INLS 750	Introduction to Digital Curation	
INLS 751	Data Governance and Curation	
INLS 752	Digital Preservation and Access	
INLS 753	Preservation of Library and Archive Materials	

People and Communities bin

Code	Title	Hours
INLS 500	Human Information Interactions	
INLS 660	Social Media and Society: A Theoretical and Empirical Overview	
INLS 735	Youth Services in a Diverse Society	
INLS 737	Inclusive Information Services for Diverse Populations	
INLS 739	Information Services and Specific Populations	
INLS 754	Access. Outreach, and Public Service in Cultural Heritage Repositories	
INLS 758	International and Cross-Cultural Perspectives for Information Management	

Milestones

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 27) for more information.

- Master's Committee
- Master's Written Exam/Approved Exam Substitute
- Thesis Substitute
- Residence Credit
- Master's Exit Survey

Master of Science in Information Science

The goal of the M.S.I.S. program is to enable students to contribute to the design, development, and maintenance of information systems and networks; lead the development of new technologies and new applications relating to the delivery of information; and demonstrate a theoretical knowledge of information science, including the theory of information storage and retrieval, systems science, and social, political, and ethical implications of information systems.

With an M.S.I.S. degree, students find jobs in areas that include (among others) information system analysis design, development, and support; database design and administration; user experience design (including interface design and usability testing); Web site design and management; social media; information resource and knowledge management; information security; and competitive intelligence.

Course Requirements

Code	Title	Hours
Core Courses		**6**
INLS 776	Ethics, Values, and Society	3
INLS 777	Perspectives on Information, Technology, and People	3
Course Bins		**18**
Two courses from the Information Bin		6
INLS 509	Information Retrieval	
INLS 513	Resource Selection and Evaluation	
INLS 515	Consumer Health Information	
INLS 520	Organization of Information	
INLS 530	Young Adult Literature and Related Materials	
INLS 609	Experimental Information Retrieval	
INLS 620	Web Information Organization	
INLS 625	Information Analytics	
INLS 707	Government Information	
INLS 708	Law Libraries and Legal Information	
INLS 714	Introduction to Information Analytics	
INLS 720	Metadata Architectures and Applications	
INLS 732	Children's Literature and Related Materials	
INLS 749	Art and Visual Information Management	
INLS 755	Archival Appraisal	
INLS 757	Principles and Practices in Archival Description	
INLS 842	Seminar in Popular Materials in Libraries	
INLS 857	Seminar in Rare Book Collections	
One course from the Services and Organizations Bin		3
INLS 501	Information Resources and Services	
INLS 525	Electronic Records Management	
INLS 556	Introduction to Archives and Records Management	
INLS 558	Principles and Techniques of Storytelling	
INLS 582	Systems Analysis	
INLS 585	Management for Information Professionals	
INLS 624	Policy-Based Data Management	
INLS 685	Project Management: Strategy and Applications	
INLS 700	Scholarly Communication	

INLS 711	Crisis Management for Libraries	
INLS 719	Usability Testing and Evaluation	
INLS 721	Cataloging Theory and Practice	
INLS 733	Administration of Public Library Work with Children and Young Adults	
INLS 740	Digital Libraries: Principles and Applications	
INLS 782	Library Assessment	
INLS 783	Library Instruction & Pedagogy	
INLS 841	Seminar in Academic Libraries	
INLS 843	Seminar in Public Libraries	
Two courses from the Technology Bin		6
INLS 465	Understanding Information Technology for Managing Digital Collections	
INLS 512	Applications of Natural Language Processing	
INLS 523	Introduction to Database Concepts and Applications	
INLS 534	Youth and Technology in Libraries	
INLS 541	Information Visualization	
INLS 560	Programming for Information Science	
INLS 561	Digital Forensics for Curation of Digital Collections	
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INLS 718	User Interface Design	
INLS 750	Introduction to Digital Curation	
INLS 751	Data Governance and Curation	
INLS 752	Digital Preservation and Access	
INLS 753	Preservation of Library and Archive Materials	
One course from the People and Communities Bin		3
INLS 500	Human Information Interactions	
INLS 660	Social Media and Society: A Theoretical and Empirical Overview	
INLS 735	Youth Services in a Diverse Society	
INLS 737	Inclusive Information Services for Diverse Populations	
INLS 739	Information Services and Specific Populations	
INLS 754	Access. Outreach, and Public Service in Cultural Heritage Repositories	
INLS 758	International and Cross-Cultural Perspectives for Information Management	
Electives		**18**
6 elective courses of the student's choice. These courses can be all INLS courses or a combination of SILS courses and up to 12 hours of non-SILS courses that are numbered 400 and up.		18
Thesis/Substitute or Dissertation		**6**
INLS 778	Research Methods and Proposal Development	3
or INLS 779	Practicum Project Development	
INLS 992	Master's (Non-Thesis)	3
Minimum Hours		**48**

Milestones

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 27) for more information.

- Master's Committee
- Master's Written Exam/Approved Exam Substitute
- Thesis Substitute
- Residence Credit
- Master's Exit Survey

Information and Library Science, Ph.D.

The Doctor of Philosophy in Information and Library Science (Ph.D.) is a research degree. Thus, the purpose of the doctoral program in S.I.L.S. is to educate scholars who are capable of addressing problems of scholarly consequence in the field of information and library science. Each student will develop a program of studies that is tailored to individual interests and career goals. Required classes include a yearlong seminar on research issues and questions (INLS 881/INLS 882) and completion of an appropriate sequence of courses in statistics. Additional courses in research methods and theory development are recommended, as are research experience and substantive content courses that are related to a student's research interests. There are also opportunities for students to develop teaching skills through both coursework and teaching experience.

Course Requirements

Code	Title	Hours
Core Courses		
INLS 881	Research Issues and Questions I	3
A Statistics Course [1]		
BIOS 660	Probability and Statistical Inference I	
BIOS 661	Probability and Statistical Inference II	
EDUC 710	Introductory Statistical Methods	
EDUC 784	Intermediate Statistical Methods	
POLI 783	Probability and Statistics	
POLI 784	Regression Models	
PSYC 830	Statistical Methods in Psychology I	
PSYC 831	Statistical Methods in Psychology II	
SOCI 708	Statistics for Sociologists	
SOCI 709	Linear Regression Models	
STOR 654	Statistical Theory I	
STOR 655	Statistical Theory II	
STOR 664	Applied Statistics I	
STOR 665	Applied Statistics II	
A Theory Development Course [1]		
An Advanced Research Methods Course [1]		
INLS 884	Seminar in Research Methodology	
Electives		
No explicit electives are required. Students supplement remaining degree-credit hours with various courses across campus (not GRAD, nothing below 500 or 994).		
Thesis/Substitute or Dissertation		

INLS 994	Doctoral Research and Dissertation [2]	3
Minimum Hours [3]		**42**

1. Various departments' courses can satisfy these required topics, see the Doctoral Program Handbook (DPH). Coordinators can also approve other classes not already listed in the DPH.
2. Students must take INLS 994 twice for a minimum of 6 credit hours.
3. 42 credit hours are required with 6 credit hours of INLS 994 Doctoral Research and Dissertation

Milestones

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 27) for more information.

- Doctoral Committee
- Doctoral Oral Comprehensive Exam
- Doctoral Written Exam
- Prospectus Oral Exam
- Advanced to Candidacy
- Dissertation Defense
- Doctoral Dissertation Approved/Format Accepted
- Residence Credit
- Doctoral Exit Survey
- Doctoral Manuscript Submission
- Doctoral Intradepartmental Review

Professors

Jaime Arguello
Jeffrey Bardzell, Dean
Robert Capra
Tressie McMillian Cottom
Melanie Feinberg
David Gotz
Sandra Hughes-Hassell
Mohammad Hossein Jarrahi
Diane Kelly, Wilson Distinguished Professor
Daniel Kreiss
Christopher (Cal) Lee
Gary Marchionini, Cary C. Boshamer Distinguished Professor
Lukasz Mazur
Marijel (Maggie) Melo
Arcot Rajasekar
Brian Sturm

Associate Professors

Bradley M. Hemminger
Ryan Shaw
Francesca Tripodi
Danny T.Y. Wu
Fei Yu

Assistant Professors

Alexandra Chassanoff
Antia Crescenzi
William (Willie) Payne
Yue (Ray) Wang
Joseph Winberry

Professors of the Practice

Ericka Patillo, Associate Dean for Academic Affairs
Matt Perault

Research Assistant Professor

Anita Crescenzi

Teaching Associate Professor

Ronald Bergquist

Teaching Assistant Professors

Michael Fox
Elliott Kuecker
Casey H. Rawson
Megan A. Winget

NOTE: The prefix, or subject code, for all School of Information and Library Science courses is INLS. When a prerequisite is listed for a course, it may be assumed that an equivalent course taken elsewhere or permission of the instructor also fulfills the prerequisite or corequisite. The course instructor must approve the equivalency of the substitute course. Although graduate students may take courses numbered below 400, they will not receive credit toward a graduate degree for those courses.

INLS

Advanced Undergraduate and Graduate-level Courses

INLS 418. Human Factors in System Design. 3 Credits.
Design, implementation, and evaluation of interfaces for computer systems. User-based techniques, usability issues, and human factors.

Rules & Requirements
Requisites: Prerequisite, INLS 382.
Grading Status: Letter grade.

INLS 465. Understanding Information Technology for Managing Digital Collections. 3 Credits.
Prepares students to be conversant with information technologies that underlie digital collections in order to evaluate the work of developers, delegate tasks, write requests for proposals, and establish policies and procedures. Teaches students how to think about information technology systems and recognize and manage interdependencies between parts of the systems.

Rules & Requirements
Grading Status: Letter grade.

INLS 467. Introduction to Information Security. 3 Credits.
Students will learn about many of the current issues facing businesses as well as how to prevent and discuss these issues and controls in depth. Focus will be placed upon preventing loss of information and protecting networks. Students should be able to understand any security control, describe its usage and rationale, as well as test and verify these controls are working as expected.

Rules & Requirements
Requisites: Prerequisite, INLS 161.
Grading Status: Letter grade.

INLS 490. Selected Topics. 1-3 Credits.
Exploration of an introductory-level special topic not otherwise covered in the curriculum. Previous offerings of these courses do not predict their future availability; new courses may replace these.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 9 total credits. 9 total completions.
Grading Status: Letter grade.

INLS 493. Professional Field Experience. 1 Credits.
Second field experience course to be offered to coincide with the student's information science project in a local organization. Enrollment restricted to IS majors and minors; Instructor permission required.

Rules & Requirements
Requisites: Prerequisite, INLS 393.
Grading Status: Pass/Fail.

INLS 500. Human Information Interactions. 3 Credits.
The behavioral and cognitive activities of those who interact with information, with emphasis on the role of information mediators. How information needs are recognized and resolved; use and dissemination of information.

Rules & Requirements
Requisites: Prerequisite, INLS 203 or graduate standing.
Grading Status: Letter grade.

INLS 501. Information Resources and Services. 3 Credits.
Analysis, use, and evaluation of information and reference systems, services, and tools for both printed and electronic delivery. Provides a foundation in electronic information search techniques, question negotiation, interviewing, and instruction.

Rules & Requirements
Grading Status: Letter grade.

INLS 509. Information Retrieval. 3 Credits.
Study of information retrieval and question answering techniques, including document classification, retrieval and evaluation techniques, handling of large data collections, and the use of feedback.

Rules & Requirements
Grading Status: Letter grade.
Same as: COMP 487.

INLS 512. Applications of Natural Language Processing. 3 Credits.
Natural language processing (NLP) uses mathematics, machine learning, linguistics, and computer science to make language computationally accessible and analyzable. In this course, you will learn to do essential NLP tasks using Python and survey a selection of NLP applications to describe the problems or tasks each addresses, the materials and methods used, and how the applications are evaluated. At least a semester of Python or equivalent practical experience is highly recommended.

Rules & Requirements
Grading Status: Letter grade.
Same as: COMP 486.

INLS 513. Resource Selection and Evaluation. 3 Credits.
Identification, provision, and evaluation of resources to meet primary needs of clientele in different institutional environments.

Rules & Requirements
Grading Status: Letter grade.

INLS 515. Consumer Health Information. 3 Credits.
Examines concepts of health, health conditions, policy, and information collections and services from social and cultural perspectives. Analysis and design for provision and access to consumer health information services.

Rules & Requirements
Grading Status: Letter grade.

INLS 520. Organization of Information. 3 Credits.
Introduction to the problems and methods of organizing information, including information structures, knowledge schemata, data structures, terminological control, index language functions, and implications for searching.

Rules & Requirements
Grading Status: Letter grade.

INLS 523. Introduction to Database Concepts and Applications. 3 Credits.
Design and implementation of basic database systems. Semantic modeling, relational database theory, including normalization, indexing, and query construction, SQL.

Rules & Requirements
Grading Status: Letter grade.

INLS 525. Electronic Records Management. 3 Credits.
Explores relationships between new information and communication technologies and organizational efforts to define, identify, control, manage, and preserve records. Considers the importance of organizational, institutional and technological factors in determining appropriate recordkeeping strategies.

Rules & Requirements
Grading Status: Letter grade.

INLS 530. Young Adult Literature and Related Materials. 3 Credits.
A survey of print and nonprint library materials particularly suited to the needs of adolescents.

Rules & Requirements
Grading Status: Letter grade.

INLS 534. Youth and Technology in Libraries. 3 Credits.
This course encourages students to explore the array of technologies available to children and adolescents, the issues surrounding the use of technology, the role of care givers, and potential impacts on development.

Rules & Requirements
Grading Status: Letter grade.

INLS 541. Information Visualization. 3 Credits.
An introduction to information visualization through reading current literature and studying exemplars. The course reviews information visualization techniques, provides a framework for identifying the need for information visualization, and emphasizes interactive electronic visualizations that use freely available tools. Students will construct several visualizations. No programming skills are required.

Rules & Requirements
Grading Status: Letter grade.

INLS 550. History of the Book and Other Information Formats. 3 Credits.
The history of the origin and development of the book in all its formats: clay tablets to electronic. Coverage includes scientific and other scholarly publications, religious works, popular literature, periodicals, and newspapers.

Rules & Requirements
Grading Status: Letter grade.

INLS 551. History of Libraries and Other Information-Related Cultural Institutions. 3 Credits.
The history of cultural institutions related to information from earliest times to the present day. Includes specific institutions, trends in service and facilities, and individuals important in the development of these institutions.

Rules & Requirements
Grading Status: Letter grade.

INLS 556. Introduction to Archives and Records Management. 3 Credits.
Survey of the principles, techniques, and issues in the acquisition, management, and administration of records, manuscripts, archives, and other cultural and documentary resources in paper, electronic, and other media formats.

Rules & Requirements
Grading Status: Letter grade.

INLS 558. Principles and Techniques of Storytelling. 3 Credits.
An overview of storytelling, its historical development, and the presentation and administration of storytelling programs. The class focuses on performance skills merged with theoretical issues.

Rules & Requirements
Grading Status: Letter grade.

INLS 560. Programming for Information Science. 3 Credits.
Introduction to programming and computational concepts. Students will learn to write programs using constructs such as iteration, flow control, variables, functions, and error handling. No programming experience required.

Rules & Requirements
Grading Status: Letter grade.

INLS 561. Digital Forensics for Curation of Digital Collections. 3 Credits.
Students will learn about hardware, software, principles, and methods for capturing and curating digital data that have been stored on removable media (i.e., hard drives, floppy disks, USB memory sticks).

Rules & Requirements
Grading Status: Letter grade.

INLS 570. Fundamentals of Programming Information Applications. 3 Credits.
Intermediate programming concepts in information processing and data analysis. Students will learn object-oriented programming, data structures, data analysis methods, and information processing techniques in the context of information science topics.

Rules & Requirements
Requisites: Prerequisite, INLS 560 or equivalent.
Grading Status: Letter grade.

INLS 572. Web Development I. 3 Credits.
Introduction to current technologies, standards, and best practices for front-end web development using HTML, CSS, and JavaScript. Includes coverage of responsive design techniques for the development of websites that render and perform well on various devices.

Rules & Requirements
Grading Status: Letter grade.

INLS 573. Mobile Web Development. 1.5 Credits.
An introduction to techniques and technologies for the development of mobile Web sites and their applications.

Rules & Requirements
Requisites: Prerequisite, INLS 161.
Grading Status: Letter grade.

INLS 582. Systems Analysis. 3 Credits.
Introduction to the systems approach to the design and development of information systems. Methods and tools for the analysis and modeling of system functionality (e.g., structured analysis) and data represented in the system (e.g., object-oriented analysis) are studied.

Rules & Requirements
Requisites: Prerequisite, INLS 382 or graduate standing.
Grading Status: Letter grade.

INLS 584. Information Ethics. 3 Credits.
An overview of ethical reasoning, followed by discussion of issues most salient to information professionals, e.g., intellectual property, privacy, access/censorship, effects of computerization, and ethical codes of conduct.

Rules & Requirements
Grading Status: Letter grade.

INLS 585. Management for Information Professionals. 3 Credits.
Introduction to management principles and practices for information professionals working in all types of organizations. Topics include planning, budgeting, organizational theory, staffing, leadership, organizational change and evaluation, and decision making.

Rules & Requirements
Grading Status: Letter grade.

INLS 586. Project Management. 1.5 Credits.
Strategies and skills needed to effectively manage projects, integrating project management theory with best practices in different organizational perspectives. Individual and team assignments include readings and case studies.

Rules & Requirements
Grading Status: Letter grade.

INLS 609. Experimental Information Retrieval. 3 Credits.
This course takes an in-depth look at experimental information retrieval systems that focus on different search tasks and are evaluated in community-wide evaluation forums such as TREC and INEX.

Rules & Requirements
Requisites: Prerequisite, INLS 509.
Grading Status: Letter grade.

INLS 613. Text Mining. 3 Credits.
This course will allow the student to develop a general understanding of knowledge discovery and gain a specific understanding of text mining. Students will become familiar with both the theoretical and practical aspects of text mining and develop a proficiency with data modeling text.

Rules & Requirements
Grading Status: Letter grade.

INLS 620. Web Information Organization. 3 Credits.
Similar programming background needed. Understand the Web as a platform for information organizing systems. Learn how the Web has been designed to be a service platform, data publishing platform, and application platform.

Rules & Requirements
Requisites: Prerequisites, INLS 520 or 560.
Grading Status: Letter grade.

INLS 623. Database Systems II: Intermediate Databases. 3 Credits.
Intermediate-level design and implementation of database systems, building on topics studied in INLS 523. Additional topics include MySQL, indexing, XML, and nontext databases.

Rules & Requirements
Requisites: Prerequisites, INLS 382 or 582, and 523.
Grading Status: Letter grade.

INLS 625. Information Analytics. 3 Credits.
This course introduces analytical techniques to deal with very large data sets. Students will become familiar with predictive modeling, clustering, data mining, and paradigms such as map resource.

Rules & Requirements
Requisites: Prerequisite, INLS 560; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

INLS 641. Visual Analytics. 3 Credits.
This project-based course provides an overview of visual analytics. Material includes foundational concepts and theories, seminal and recent research in the field, and hands-on experience with commonly used technologies. Programming experience strongly recommended.

Rules & Requirements
Grading Status: Letter grade.

INLS 642. Data Mining. 3 Credits.
Recent years have witnessed explosive growth of heterogeneous and large-scale data sets. With a focus on practical applications, this course will survey methods for discovering knowledge from different modalities of data: item sets, matrix, text, image, time series, sequence, network, and more. Students will learn through lectures, seminar discussions, shared tasks, and a course project. Prior experience in data-oriented programming languages (e.g., Python or R) is strongly recommended.

Rules & Requirements
Grading Status: Letter grade.

INLS 651. Audio-Visual Archives Management. 1.5 Credits.
An introduction to the management of audio, film, and video archives with an emphasis on the history of recording, best practices for preservation and access, and copyright. Through selected readings, lecture, class discussion, assignment, and hands-on demonstration, students will gain an understanding of the history of recording, format identification, storage and handling, philosophy of media preservation, and copyright.

Rules & Requirements
Grading Status: Letter grade.

INLS 660. Social Media and Society: A Theoretical and Empirical Overview. 3 Credits.
Explores the evolution, implications, and complications of social media in multiple spheres of life including sociality, community, politics, power and inequality, education, and information from theoretical and empirical perspectives.

Rules & Requirements
Grading Status: Letter grade.

INLS 672. Web Development II. 3 Credits.
Study of design and implementation of applications using both client and server side configuration and programming. Example topics include PHP, ruby on Rails, and Javascript.

Rules & Requirements
Requisites: Prerequisite, INLS 572.
Grading Status: Letter grade.

INLS 685. Project Management: Strategy and Applications. 3 Credits.
This course is a broad introduction to project management principles, tools, and strategies intended for use in a variety of applications. Key topics include project planning tools, project process groups, risk assessment, budgeting/cost estimation, and team management. Through the use of readings, videos, assignments, and forum discussions, students will have the opportunity to demonstrate knowledge and understanding of the strategy behind successful project management and problem resolution.

Rules & Requirements
Grading Status: Letter grade.

INLS 690. Intermediate Selected Topics. 1-3 Credits.
Exploration of a special topic not otherwise covered in the curriculum, at an intermediate level. Previous offering of this course does not predict future availability; new courses may replace these. Topic varies by instructor.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 9 total credits. 9 total completions.
Grading Status: Letter grade.

INLS 691H. Research Methods in Information Science. 3 Credits.
Senior standing and permission of the instructor. Restricted to information science majors. An introduction to research methods used in information science. Includes the writing of a research proposal.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

INLS 692H. Honors Thesis in Information Science. 3 Credits.
Senior standing and permission of the instructor. Students in the SILS undergraduate honors program engage in independent research and write an honors thesis reporting the research under the supervision of a faculty member. Restricted to information science majors.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

INLS 696. Study in Information and Library Science. 1-3 Credits.
Study by an individual student on a special topic under the direction of a specific faculty member. Six credit maximum for master's students. Graduate faculty.

Rules & Requirements
Requisites: Prerequisite, permission of the instructor.
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 6 total credits. 6 total completions.
Grading Status: Letter grade.

INLS 697. Information Science Capstone. 3 Credits.
Senior standing required. Information science major or minor. Contemporary topics of information science, information systems, information technology, information design, and information management. Assessment of future impact of new developments.

Rules & Requirements
Grading Status: Letter grade.

Graduate-level Courses

INLS 700. Scholarly Communication. 3 Credits.
Addresses how scholars approach academic work; social relationships within academia; external stakeholders in the scholarly communication system; and emerging technologies' impact upon work practices. Intended for students interested in academic libraries or digital collections of scholarly materials, and/or conducting research on scholarly communication.

Rules & Requirements
Grading Status: Letter grade.

INLS 707. Government Information. 3 Credits.
A survey of information and data sources from all levels of U.S. government, and international bodies. Primary focus on strategies for finding information; secondary, collection management, role of librarians, etc.

Rules & Requirements
Grading Status: Letter grade.

INLS 708. Law Libraries and Legal Information. 3 Credits.
An introduction to the legal system and the development of law libraries, their unique objectives, characteristics, and functions. The literature of Anglo-American jurisprudence and computerized legal research are emphasized, as well as research techniques.

Rules & Requirements
Requisites: Prerequisite, INLS 501.
Grading Status: Letter grade.

INLS 709. Business Information. 3 Credits.
Combines an introduction to basic business concepts and vocabulary with consideration of current issues in business librarianship and of key print and electronic information sources.

Rules & Requirements
Requisites: Prerequisite, INLS 501.
Grading Status: Letter grade.

INLS 710. Evidence-Based Medicine. 3 Credits.
An introduction to the process of evidence-based medicine (EBM) including question building, searching, and critical appraisal of studies and to the supporting roles and opportunities for medical librarians.

Rules & Requirements
Grading Status: Letter grade.

INLS 711. Crisis Management for Libraries. 3 Credits.
Crises come in many forms, from natural disasters to individual health emergencies. Preparedness, prevention, and planning are all critical components in handling these situations effectively. In this course, students will learn about risk assessment, training and other tools, disaster prevention, recovery, partnerships, and outreach as they apply to all types of libraries.

Rules & Requirements
Grading Status: Letter grade.

INLS 712. Introduction to Text Mining. 1.5 Credits.
Changes in technology and publishing practices have eased the task of recording and sharing textual information electronically. This increased quantity of information has spurred the development of a new field called text mining. The overarching goal of this new field is to use computers to automatically learn new things from textual data. Throughout the course, a strong emphasis will be placed on evaluation. Students will develop an understanding of one method through a course project.

Rules & Requirements
Grading Status: Letter grade.

INLS 714. Introduction to Information Analytics. 1.5 Credits.
The data explosion experienced by computerization of every aspect of our lives from social media to internet of things requires a deeper look at information analytics. The course introduces proven and emerging analytical techniques that can be used to deal with mountains of mostly unstructured data. We will look at several analytical paradigms from Predictive Modeling to Data Mining, Text Analytics to Web Analytics, Statistical Analysis to novel paradigms in Map Reduce and Storm.

Rules & Requirements
Grading Status: Letter grade.

INLS 718. User Interface Design. 3 Credits.
Basic principles for designing the human interface to information systems, emphasizing computer-assisted systems. Major topics: users' conceptual models of systems, human information processing capabilities, styles of interfaces, evaluation methods.

Rules & Requirements
Requisites: Prerequisite, INLS 582.
Grading Status: Letter grade.

INLS 719. Usability Testing and Evaluation. 3 Credits.
This course will introduce central concepts in usability engineering, testing and evaluation including: UX lifecycle, contextual inquiry, formal and informal evaluation techniques, measures, metrics, qualitative and qualitative analysis, evaluation reporting.

Rules & Requirements
Requisites: Prerequisites, INLS 382 or INLS 582.
Grading Status: Letter grade.

INLS 720. Metadata Architectures and Applications. 3 Credits.
Examines metadata in digital environment. Emphasizes the development and implementation of metadata schemas in distinct information communities and the standards and technological applications used to create machine understandable metadata.

Rules & Requirements
Grading Status: Letter grade.

INLS 721. Cataloging Theory and Practice. 3 Credits.
Covers principles, practices, and future trends for cataloging library resources. Topics include RDA/AACR2, MARC, authority control, subject analysis, classification, and cataloging of print, nonprint, and digital resources.

Rules & Requirements
Grading Status: Letter grade.

INLS 722. Introduction to Metadata Architectures and Applications. 1.5 Credits.
Examines fundamental concepts central to structured metadata implementations and surveys the many types of standards that attempt to harmonize description and enable interoperable systems. The course situates the challenge of implementing standards for interoperable data within the messy reality of persistent interpretive diversity. Students cannot receive credit for both INLS 722 and INLS 720.

Rules & Requirements
Grading Status: Letter grade.

INLS 724. Introduction to Electronic Records Management. 1.5 Credits.
We explore the management and preservation of electronic records for maintaining institutional accountability; protecting rights of citizens, employees and customers; supporting efficient operations; perpetuating social memory; and helping individuals to integrate the past into their sense of identity. We begin by considering the messy recordkeeping environment that surrounds us and then build up a set of concepts, tools and strategies that information professionals can use to help shape more appropriate, valuable and sustainable recordkeeping systems.

Rules & Requirements
Grading Status: Letter grade.

INLS 726. Big Data and NoSQL for Data Science. 1.5 Credits.
This class will introduce students to current and emerging practices for dealing with big data and large-scale database systems used by many social networking and ecommerce services. These applications are highly data intensive and use novel algorithms and NoSQL databases that are mainly open source, non-schema oriented, having weak consistency properties and heavily distributed over large and evolving clusters of off-the-shelf server systems. We will look at several such systems in this course.

Rules & Requirements
Requisites: Prerequisite, INLS 523 or equivalent or permission from the instructor.
Grading Status: Letter grade.

INLS 732. Children's Literature and Related Materials. 3 Credits.
Survey of literature and related materials for children with emphasis on 20th-century authors and illustrators.

Rules & Requirements
Grading Status: Letter grade.

INLS 733. Administration of Public Library Work with Children and Young Adults. 3 Credits.
Objectives and organization of public library services for children and young adults; designed for those who may work directly with young people or who intend to work in public libraries.

Rules & Requirements
Grading Status: Letter grade.

INLS 737. Inclusive Information Services for Diverse Populations. 3 Credits.
This course will prepare students to work as ILS professionals in today's increasingly diverse society. Students will develop a theoretical base in critical race theory (CRT) and other cross-disciplinary theories.

Rules & Requirements
Grading Status: Letter grade.

INLS 739. Information Services and Specific Populations. 3 Credits.
Service, professional, and administrative issues related to information access by nontraditional information service users. The course examines trends, public policy, ethical issues, programming, and evaluation of services.

Rules & Requirements
Grading Status: Letter grade.

INLS 749. Art and Visual Information Management. 3 Credits.
A survey of the history and practice of art and visual resources librarianship/curatorship, with an emphasis on administration, collection development, copyright practices, digital resource management, and public service.

Rules & Requirements
Grading Status: Letter grade.

INLS 750. Introduction to Digital Curation. 3 Credits.
Introduces students to digital curation; focusing best practices for the creation, selection, storage, provision, and long-term preservation of digital entities. Discusses the digital/data curation life cycles and identifies the activities associated with each stage and their social, legal, ethical, and policy implications.

Rules & Requirements
Grading Status: Letter grade.

INLS 751. Data Governance and Curation. 3 Credits.
This course explores best practices, standards, new tools, and workflows for the full range of data lifecycle activities including: FAIR data; the ethics of data collection, analysis, and storage; data sharing and reuse for the academic, government, and business sectors; key data curation standards; data quality; document and content management; data maturity models; and organizational change management. The second half of the class focuses on data governance.

Rules & Requirements
Grading Status: Letter grade.

INLS 752. Digital Preservation and Access. 3 Credits.
Focuses on best practices for the creation, provision, and long-term preservation of digital entities. Topics include digitization technologies; standards and quality control; digital asset management; grant writing; and metadata.

Rules & Requirements
Grading Status: Letter grade.

INLS 753. Preservation of Library and Archive Materials. 3 Credits.
An introduction to current practices, issues, and trends in the preservation of materials for libraries and archives, with an emphasis on integrating preservation throughout an institution's operations.

Rules & Requirements
Grading Status: Letter grade.

INLS 754. Access. Outreach, and Public Service in Cultural Heritage Repositories. 3 Credits.
Explores user needs, information seeking behaviors, and provision of access to primary source materials in archives, manuscript repositories, and museums. User education and outreach are major foci.

Rules & Requirements
Requisites: Prerequisite, INLS 501.
Grading Status: Letter grade.

INLS 755. Archival Appraisal. 3 Credits.
Explores history, theories, techniques, and methods that archivists use to identify documents and other materials of enduring value for lone-term preservation.

Rules & Requirements
Requisites: Prerequisite, INLS 556.
Grading Status: Letter grade.

INLS 757. Principles and Practices in Archival Description. 3 Credits.
Recommended preparation, INLS 556. Explores the history, principles, development, and use of archival description with a focus on EAD and MARC structures. Presents authority and subject analysis work and description for special formats.

Rules & Requirements
Requisites: Prerequisite, INLS 556.
Grading Status: Letter grade.

INLS 759. Community Archiving. 3 Credits.
This course explores the concepts and practice of community archives, which can be loosely defined as collections of material(s) documenting one or many aspects of community heritage, collected and/or preserved by that community and its members. In addition to learning core concepts, theories, frameworks, and histories associated with community archives, students will also apply this knowledge to consider how community archivists implement collections in a variety of settings.

Rules & Requirements
Grading Status: Letter grade.

INLS 760. Web Databases. 3 Credits.
Programming experience required. Explores concepts and practice surrounding the implementation and delivery of Web-enabled databases. Students will gain experience with and evaluate PC and Unix Web database platforms.

Rules & Requirements
Requisites: Prerequisites, INLS 572 and 623.
Grading Status: Letter grade.

INLS 761. Data Analysis. 1.5 Credits.
This course provides fundamental skills for developing software for the analysis of structured data sets. Students will learn data analysis techniques using numeric, textual, and tabular data in the context of data science topics such as information retrieval, textual analysis, and basic machine learning. The course combines conceptual understanding of data structures and algorithms with practical techniques for implementation and debugging. Course concepts are taught using Python. For Certificate in Applied Data Science students.

Rules & Requirements
Requisites: Prerequisite, COMP 110 for undergraduates only or INLS 560 or equivalent.
Grading Status: Letter grade.

INLS 765. Information Technology Foundations for Managing Digital Collections. 1.5 Credits.
Prepares students to be conversant with information technologies that underlie digital collections in order to evaluate the work of developers, delegate tasks, write requests for proposals, and establish policies and procedures.

Rules & Requirements
Grading Status: Letter grade.

INLS 766. Audit and Certification of Trustworthy Digital Repositories. 1.5 Credits.
This course will address international standards for repository design and audit; risk assessment and mitigation; repository audit and certification tools and processes; criteria for trustworthiness; and the development of specific workflows to support trustworthy digital curation functions. It is also the first step in preparing for repository self-audits and the Trustworthy Digital Repository Auditor's credential to become an auditor of trustworthy digital repositories (ISO 16363).

Rules & Requirements
Grading Status: Letter grade.

INLS 767. Information Assurance. 3 Credits.
Information assurance is a broader concept than (computerized) information security. It deals with aspects of data integrity, privacy, paper and human security issues, and security from several perspectives: legal issues, technical tools and methods, social and ethical concerns, and organization's policies and procedures, and standards. Previously offered as INLS 566.

Rules & Requirements
Grading Status: Letter grade.

INLS 772. Applied Statistics, Machine Learning, & Data Communication. 3 Credits.
An applied course introducing computational statistical analysis, machine learning, data exploration and communication with a focus on applied concepts as encountered within common data science applications.

Rules & Requirements
Requisites: Prerequisites, COMP 110 and INLS 560, 761, and 773.
Grading Status: Letter grade.

INLS 773. Database for Data Science. 1.5 Credits.
This course will introduce the basic concepts and implementations of relational database management systems suited for data science applications. Topics include user requirements and specifications, ER models, database programming including SQL, data quality, and applications.

Rules & Requirements
Grading Status: Letter grade.

INLS 774. Applied Data Ethics. 1.5 Credits.
This course will introduce students to ethical issues faced by data scientists in creation, collection, curation, and use of data. It addresses issues at multiple scales. Students begin with an overview of ethical frameworks and apply them to cases through the course. Readings and class discussions will be drawn from current events. The course is heavily discussion and participation-based, and students are expected to bring examples of ethical scenarios to class sessions.

Rules & Requirements
Grading Status: Letter grade.

INLS 775. Applied Data Curation and Management. 1.5 Credits.
Introduce to digital and data curation in a wide array of environments including business, government, and academia. Topics include: the Data Curation Lifecycle; research data management; data sharing; challenges and benefits of big data, good data, open data, and FAIR data; the ethics of data collection, analysis, and storage; data sharing and reuse for the academic, government, and business sectors; and the roles of data management plans in all data venues.

Rules & Requirements
Grading Status: Letter grade.

INLS 776. Ethics, Values, and Society. 3 Credits.
This course explores ethical issues related to information, data, knowledge, and technology in various individual, community, and societal contexts.

Rules & Requirements
Grading Status: Letter grade.

INLS 777. Perspectives on Information, Technology, and People. 3 Credits.
Examines the relationships between information, technology, and people from an array of disciplinary, professional, cultural, and other orientations. Survey from historical and future viewpoints. Explores the application of diverse perspective to understand current matters of concern.

Rules & Requirements
Grading Status: Letter grade.

INLS 778. Research Methods and Proposal Development. 3 Credits.
During this course each student will prepare a proposal for the work to be completed during the following semester for their masters paper/project (INLS 992). Students will also receive an introduction to research methods used in information and library science, exploring the design, interpretation, analysis and application of published research.

Rules & Requirements
Requisites: Prerequisites, INLS 776 and INLS 777.
Grading Status: Letter grade.

INLS 779. Practicum Project Development. 3 Credits.
This course will prepare students to conduct their capstone practicum. It includes a broad introduction to project management principles, tools, and strategies intended for use in a variety of applications.

Rules & Requirements
Requisites: Prerequisites, INLS 776 and 777.
Grading Status: Letter grade.

INLS 782. Library Assessment. 3 Credits.
Addresses evaluation and assessment activities in libraries. Existing tools for evaluation library operations will be considered. Students will design and conduct their own evaluation of one or more library operations.

Rules & Requirements
Grading Status: Letter grade.

INLS 783. Library Instruction & Pedagogy. 3 Credits.
Examines the role of school, public, and academic librarians in providing instruction. Pedagogy, learning theories, information literacy standards and curricula, and assessment methods are addressed.

Rules & Requirements
Grading Status: Letter grade.

INLS 784. Information, Values, Ethics, and Action. 3 Credits.
This course examines values and ethics and their application to information, data, knowledge, and technology in various contexts. Will include some formal frameworks for ethical reasoning and examination of current and recent issues.

Rules & Requirements
Requisites: Prerequisites, INLS 384 (undergraduates only) and permission of instructor.
Grading Status: Letter grade.

INLS 787. Legal Issues for Librarians. 3 Credits.
Students will learn to read/analyze legal materials, identify major legal issues and legal regulations governing librarians, and use legal information to create policies and guide best practice in particular institutions.

Rules & Requirements
Grading Status: Letter grade.

INLS 792. Applied Data Science Practicum. 3 Credits.
The Applied Data Science Practicum course is designed to build upon the formal classroom instruction in data science concepts and technologies through a "hands-on" project experience within an industry, non-profit or other work environment that relates to the student's primary field of study/practice. The aim is to provide students with a practical learning opportunity to apply data science techniques on real-world problems. Permission of Instructor required for this course.

Rules & Requirements
Grading Status: Letter grade.

INLS 794. Digital Curation Internship. 4 Credits.
Permission of Instructor. PSM Internship in Digital Curation is a planned, individualized, mentored, evaluated, experiential learning opportunity that serves as a bridge between academic training and non-academic practice.

Rules & Requirements
Grading Status: Letter grade.

INLS 795. Supervised Field Experience. 3 Credits.
Required preparation, completion of 18 semester hours. Permission of the instructor. Supervised observation and practice in an information service agency or library. The student will work a required amount of time under the supervision of an information/library professional and participate in faculty-led discussions for ongoing evaluation of the practical experience.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

INLS 796. Field Experience in School Library Media. 3 Credits.
Required preparation, completion of at least 21 semester hours, including INLS 744 and INLS 754. Permission of the instructor. Supervised observation and practice in a school library media center. Faculty-led seminars, reflection journals, and on-site faculty observations enhance the experience.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

INLS 797. Second Field Experience for Graduate Students. 1.5 Credits.
Second Field Experience course to be offered to coincide with graduate students information or library science project in an organization. Department consent required.

Rules & Requirements
Requisites: Prerequisite, INLS 795.
Repeat Rules: May be repeated for credit. 3 total credits. 2 total completions.
Grading Status: Letter grade.

INLS 800. Seminar Series in Digital Curation. 1.5 Credits.
This course will provide brief introductions to materials that do not otherwise fit into the 31 credit format of the PSM in Digital Curation degree. This course will cover established topics but also late-breaking developments so as to keep students up-to-date with changes in tools, practices, and standards. A lecture or interview with a digital curation expert will be posted biweekly.

Rules & Requirements
Grading Status: Letter grade.

INLS 818. Seminar in Human-Computer Interaction. 3 Credits.
Research and development in design and evaluation of user interfaces that support information seeking. Major topics: interactivity, needs assessment, query and browser interactions, interactive design and maintenance, usability testing.

Rules & Requirements
Requisites: Prerequisite, INLS 718; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

INLS 841. Seminar in Academic Libraries. 3 Credits.
Study of problems in the organization and administration of college and university libraries with emphasis on current issues in personnel, finance, governance, and services.

Rules & Requirements
Grading Status: Letter grade.

INLS 842. Seminar in Popular Materials and Reader's Advisory. 3 Credits.
Selected topics relating to the roles of public and academic libraries in the provision and marketing of popular materials for adult users (romance, science fiction, mysteries, etc.), including readers' advisory tools and techniques used to connect users to these materials.

Rules & Requirements
Grading Status: Letter grade.

INLS 843. Seminar in Public Libraries. 3 Credits.
Required preparation, completion of 12 semester hours. Selected topics in public library services, systems, networks, and their management. Current issues are emphasized, along with the interests of the participants.

Rules & Requirements
Grading Status: Letter grade.

INLS 857. Seminar in Rare Book Collections. 3 Credits.
A study of the nature and importance of rare book collections; problems of acquisition, organization, and service.

Rules & Requirements
Grading Status: Letter grade.

INLS 873. Research Practicum. 1-3 Credits.
Doctoral students will work on faculty-sponsored or off-site research projects to gain foundational research skills. Students may be involved in research design, data collection, data analysis, or other research-related activities.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 12 total completions.
Grading Status: Letter grade.

INLS 881. Research Issues and Questions I. 3 Credits.
Doctoral standing or permission of the instructor. Intensive and systematic investigation of the fundamental ideas in information and library science. Exploration and discussion in seminar format. Must be taken in fall semester followed by INLS 882 in spring.

Rules & Requirements
Grading Status: Letter grade.

INLS 882. Research Issues and Questions II. 3 Credits.
Doctoral standing or permission of the instructor. Intensive and systematic investigation of the fundamental ideas in information and library science. Exploration and discussion in seminar format. Must be taken in the spring semester immediately after INLS 881 (offered fall only).

Rules & Requirements
Grading Status: Letter grade.

INLS 883. Research Colloquium. 1 Credits.
Doctoral standing required. Presentation and discussion of research issues, questions, methods, analytical approaches by students, faculty, or visitors.

Rules & Requirements
Grading Status: Letter grade.

INLS 884. Seminar in Research Methodology. 3 Credits.
Required preparation, doctoral standing or INLS 780 for Master's students. Permission of the instructor for students lacking this preparation. Exploration of topics related to research design and methodology in information and library science.

Rules & Requirements
Grading Status: Letter grade.

INLS 886. Graduate Teaching Practicum. 1-3 Credits.
Permission of the instructor. Doctoral students will observe and work with faculty in the classroom to gain foundational teaching skills. Students may practice designing a class session or exercise, leading a class, and/or grading.

Rules & Requirements
Repeat Rules: May be repeated for credit. 3 total credits. 3 total completions.
Grading Status: Letter grade.

INLS 887. Seminar in Theory Development. 3 Credits.
Doctoral or advanced master's standing required. Discussion and critique of the structural components and processes utilized in theory development. Seminar provides knowledge relating to the various stages of theory building.

Rules & Requirements
Grading Status: Letter grade.

INLS 888. Seminar in Teaching and Academic Life. 3 Credits.
Doctoral student or advanced master's standing required. Examines teaching, research, publication, and service responsibilities. Provides perspective on professional graduate education and LIS educational programs. Explores changing curricula and discusses ethics, rewards, and problems of academic life.

Rules & Requirements
Grading Status: Letter grade.

INLS 889. Seminar in Teaching Practice. 1 Credits.
Doctoral standing required. For doctoral students currently involved in teaching activities, these regular seminar meetings are designed to discuss relevant literature and aspects of the teaching experience.

Rules & Requirements
Requisites: Pre- or corequisite, INLS 888.
Grading Status: Letter grade.

INLS 890. Advanced Special Topics. 1-6 Credits.
Exploration of an advanced special topic not otherwise covered in the curriculum. Previous offering of these courses does not predict their future availability; new courses may replace these.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 9 total credits. 9 total completions.
Grading Status: Letter grade.

INLS 988. Research in Information and Library Science. 1-6 Credits.
Permission of the instructor. Supports individual and small group research undertaken by doctoral students in information and library science intended to produce research results of publishable quality.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

INLS 992. Master's (Non-Thesis). 3 Credits.
Provides a culminating experience for master's degree students, under the supervision of a faculty member, to engage in: 1) independent research with a final research paper, or 2) a practicum experience with a final presentation or poster.

Rules & Requirements
Requisites: Prerequisites, INLS 781, INLS 778, INLS 779, or permission of instructor.
Repeat Rules: May be repeated for credit.

INLS 994. Doctoral Research and Dissertation. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

CHIP

Advanced Undergraduate and Graduate-level Courses

CHIP 400. Digital Health Innovations and Impact. 3 Credits.
In this course, students will be introduced to patient engagement, population health, digital therapies; learn about interoperability standards driving data sharing; review the regulatory bodies defining standards of care, along with understanding the privacy and security laws governing the use of health care data. The course includes a project prototyping and pitching a digital health solution. We will hear from industry experts who will participate as guest lecturers with opportunities for students to ask questions.

Rules & Requirements
Grading Status: Letter grade.

CHIP 490. Selected Topics. 1-3 Credits.
Exploration of an introductory-level special topic not otherwise covered in the curriculum. Previous offerings of these courses do not predict their future availability; new courses may replace these.

Rules & Requirements
Repeat Rules: May be repeated for credit. 9 total credits. 9 total completions.
Grading Status: Letter grade.

CHIP 690. Intermediate Selected Topics. 1-3 Credits.
Exploration of a special topic not otherwise covered in the curriculum, at an intermediate level. Previous offering of this course does not predict future availability; new courses may replace these. Topic varies by instructor.

Rules & Requirements
Repeat Rules: May be repeated for credit. 9 total credits. 9 total completions.
Grading Status: Letter grade.

CHIP 696. Independent Study in Health Informatics. 1-3 Credits.
Study by an individual student on a special topic under the direction of a specific faculty member. Six credits maximum for master's students. Graduate faculty. Permission of the instructor.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 6 total completions.
Grading Status: Letter grade.

Graduate-level Courses

CHIP 710. Systems Analysis in Healthcare. 3 Credits.
Introduction to the systems approach to the design and development of health information systems. Understanding systems analysis in healthcare. Methods and techniques for the analysis and modelling of system functionality (e.g., structured analysis) and data represented in the system (e.g., object-oriented analysis) are studied.

Rules & Requirements
Grading Status: Letter grade.

CHIP 721. Healthcare Systems in the US. 3 Credits.
This course introduces students to the breadth and complexity of the US health care system. We will look at the functioning parts of how and who delivers health care. We will also examine the emergence, response, and outcomes of the COVID-19 pandemic in the US.

Rules & Requirements
Grading Status: Letter grade.

CHIP 725. Electronic Health Records. 3 Credits.
Focuses on EHR data standards with emphasis on data management requirements, applications, and services. Course includes HL7, CCHIT, and CDISC standards. For data management specialists, administrators, and health data analysts.

Rules & Requirements
Grading Status: Letter grade.

CHIP 732. Database Systems in Healthcare. 3 Credits.
Students will learn the basics of setup, administration, and querying relational databases using SQL to perform CRUD operations: Create read Update Delete. We will also cover some basic information about indexing and normalization to improve performance, efficiency and stability.

Rules & Requirements
Grading Status: Letter grade.

CHIP 770. Health Informatics Seminar. 2 Credits.
The course focuses on developing an understanding of current and future directions for the use of information technology to improve the health and health care of patients in the U.S. health system and beyond. This series explores key areas in Health Informatics and includes research results, overview of programs of research, and evaluative projects. Speakers with extensive informatics experiences and knowledge from both academia and industry are invited to present.

Rules & Requirements
Grading Status: Letter grade.

CHIP 793. Health Informatics Internship. 1-3 Credits.
The health informatics internship is a course designed to expand classroom learning to include "hands-on" experience with an industry partner in health care or health information technology. The main aim of the course is to provide the students a practical learning opportunity in Health IT deployment, data collection and management, and data analysis.

Rules & Requirements
Requisites: Prerequisite, Student must have completed 9 hours of coursework.
Grading Status: Letter grade.

CHIP 890. Advanced Special Topics. 1-6 Credits.
Exploration of an advanced special topic not otherwise covered in the curriculum. Previous offering of these courses does not predict their future availability; new courses may replace these.

Rules & Requirements
Repeat Rules: May be repeated for credit. 9 total credits. 9 total completions.
Grading Status: Letter grade.

CHIP 994. Doctoral Research and Dissertation. 3 Credits.
Individual work on the doctoral dissertation under the guidance of the student's dissertation advisor. Graduate students must have completed their pillar and elective coursework requirements. A doctoral degree check with program coordinator must be completed before a student can be enrolled in CHIP 994. Doctoral student standing and permission of instructor required.

Rules & Requirements
Repeat Rules: May be repeated for credit.

Contact Information

School of Information and Library Science
Visit Program Website (http://sils.unc.edu)

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Dean
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DEPARTMENT OF LINGUISTICS (GRAD)

The Department of Linguistics offers graduate work leading to the degree of master of arts in linguistics, and a concentration in Hispanic linguistics as part of a dual-degree program in Hispanic linguistics with a Ph.D. in Romance studies. The Department of Linguistics also co-sponsors a graduate certificate in computational linguistics, jointly administered by the Department of Computer Science and the School of Information and Library Science.

M.A. in Linguistics

Degree candidates for the regular M.A. in linguistics must demonstrate both a basic knowledge of the field of linguistics as a whole and the ability to do independent study in a chosen specialty. Basic knowledge of linguistics is acquired by taking certain required courses; knowledge of a specialty is gained through elective courses as well as by writing a thesis.

The elective courses are expected to form a coherent program in a subfield of linguistics (e.g., phonology, syntax, historical linguistics, sociolinguistics, language acquisition) or in the application of linguistics to a closely related discipline (e.g., anthropology, the study of a particular language or language family). To this end, each student, after consultation with the director of graduate studies, will by the end of the second semester of residence choose a permanent advisor, who will supervise the student's program of study.

Information on applying to the linguistics M.A. program, as well as a detailed description of program requirements, can be found on the Linguistics Department Web site (https://linguistics.unc.edu/graduate-program/ma-linguistics/).

M.A. in Linguistics with Concentration in Hispanic Linguistics

This dual degree program prepares students with knowledge of Spanish to pursue advanced graduate study in the linguistic analysis of Spanish and related languages, e.g. Portuguese or indigenous languages spoken in proximity to Spanish (e.g. Maya, Guarani, Basque). Students in this program complete an M.A. in linguistics before proceeding to the Ph.D. program in Romance studies, both with concentration in Hispanic linguistics. More information can be found on the program Web site (http://hispaniclinguisticsgraduatestudies.web.unc.edu/).

Graduate Certificate in Computational Linguistics

This certificate provides training in linguistic analysis, machine learning, text/data mining, natural language processing and generation, and related areas to prepare students for careers in the tech industry or academia. The program is open to currently enrolled graduate students in linguistics, computer science, information and library science, and related fields such as communication, education, speech and hearing sciences, and others. The program is also open to non-degree-seeking students. More information can be found on the program Web site (https://linguistics.unc.edu/graduate-program/computational-linguistics-certificate/).

Degree programs must satisfy the general requirements of The Graduate School. In addition, the student must fulfill the following curriculum requirements for the master of arts degree:

Code	Title	Hours
Course Requirements		
LING 520	Linguistic Phonetics	3
LING 523	Phonological Theory I	3
LING 530	Syntactic Theory I	3
One course from among:		3
LING 525	Introduction to Historical and Comparative Linguistics	
LING 528	Language Acquisition I	
LING 537	Semantic Theory I	
Five elective courses in linguistics or related areas, as approved by the student's academic advisor		15
Thesis credit		3
Total Hours		**30**

Note: Students are expected to complete their nonelective courses during their first year. This schedule qualifies students to be considered for a linguistics teaching assistantship by their third semester. Deviations from it are therefore strongly discouraged.

Foreign Language Requirement

Reading knowledge of one foreign language. This requirement may be met in one of three ways:

1. By passing the Graduate Student Foreign Language Test, given each November and April by The Graduate School. For information and registration, go directly to the website (http://gradschool.unc.edu/student/gflpa.html).
2. Where available, by passing the reading courses for graduate students numbered 601 and 602 (these courses do not earn graduate credit). Note: Students with some prior experience may find it feasible to meet the requirement by enrolling directly in and passing 602, bypassing 601.
3. Where neither option 1 nor option 2 is available, students may arrange to have their competence certified by a qualified faculty member, usually through an informal examination.

Comprehensive Examination

During the semester following completion of the nonelective courses (which should be the fall term of the second year), students will form an examining committee of three faculty members in the department. It is expected that this committee will also serve as the M.A. thesis committee. The student will submit a prospectus of the M.A. thesis, as described below. The oral examination will assess the student's mastery of topics from the first-year sequence of course work and gauge the merits of the prospectus.

Writing Requirement

Each student must demonstrate the ability to write a professional-quality scholarly, scientific, or technical document. There are two options available for satisfying this requirement.

Thesis Option

The master's thesis (normally 50 to 100 pages in length) must be approved by a committee consisting of the thesis director and two other faculty members at the oral comprehensive exam. Students form their thesis committee with the advice of their academic advisor, who may (but need not) be the thesis director. At the comprehensive oral exam for the M.A., the department requires that students who have elected this option submit a prospectus of the thesis. The prospectus should state clearly what problem is to be investigated, how the investigation is to be carried out (written research, field work, experiment, etc.), and a preliminary bibliography. The prospectus should first be discussed with the thesis director. Students should then submit a "clean" version to all three committee members and set up a meeting at which the prospectus can be informally discussed and approved (perhaps with modifications). Students are also expected to consult their thesis director regularly during the actual writing of the thesis. Formal requirements regarding the format and submission of the M.A. thesis are found in the *Thesis and Dissertation Guide*.

The final oral examination, administered by the thesis committee, focuses on a defense of the thesis, but the faculty reserves the right to question students on other relevant topics. Students should avoid scheduling a thesis defense during the summer, since faculty members often are not available. If it is absolutely unavoidable, students should consult committee members well in advance.

Research Paper Option

The research paper is a report of original research that is of sufficient quality that it can be published or presented in a public scholarly forum. The research paper is to be written with the guidance of a faculty supervisor. The student should find two faculty sponsors, at least one of whom must be a member of the Linguistics Department, and at least one of whom must be the faculty supervisor, who agree to read the research paper for content and style. The student will submit a proposal for the research paper at the M.A. comprehensive oral exam. The research paper is then to be written during one semester, while the student is registered for LING 992 (thesis substitute), with the faculty supervisor. The research that the paper describes must also be presented by the student in a public scholarly forum in order to fulfill the final oral examination requirement.

The faculty sponsors should communicate to the director of graduate studies their approval of the paper. The requirement is satisfied when both faculty members have accepted the same version of the paper and have certified that the research has been presented in a public scholarly forum. The faculty sponsors should communicate this to the director of graduate studies, along with a printed version of the paper. The DGS will communicate the outcome to The Graduate School using the Report of Approved Substitute form.

Important Degree Deadlines

Each year The Graduate School sets deadlines for graduation in a given term (fall, spring, summer). There are two sets of dates to be mindful of:

1. Students wishing to graduate must submit an application to graduate, as stipulated in the Graduate Student Handbook (http://handbook.unc.edu/graduation.html). These documents must be submitted in advance: typically July for August graduation, February for May graduation, and October for December graduation, but official dates will be posted on the University Registrar's calendar (https://registrar.unc.edu/registrar-calendars/). There is no penalty for failure to complete requirements for a requested graduation date, but a student cannot graduate without having submitted the application to graduate. Therefore students should submit it in time for any semester in which they think they may graduate.
2. The final electronic version of the thesis must be submitted to The Graduate School before the student can graduate. The deadline for submission is shortly before graduation; please see the University Registrar's calendar (https://registrar.unc.edu/registrar-calendars/) for current dates.

Note: The previous Ph.D. program in linguistics (1967–2011) no longer admits new students. Legacy students should consult the Department of Linguistics Web site *(*https://linguistics.unc.edu/graduate-program/ma-linguistics/*) for degree requirements.*

Hispanic Linguistics Dual Graduate Track: M.A. in Linguistics and Ph.D. in Romance Studies, Both with Concentration in Hispanic Linguistics

Hispanic linguistics is a discipline that focuses in particular on the structure, history, dialectal variation, acquisition, and use of Spanish, Portuguese, and other languages in contact with Spanish, using the analytic tools of modern linguistic theory. Specialists in Hispanic linguistics have a general, theoretical background in linguistics and specialize in phenomena directly relevant to the linguistic analysis of these particular languages. A Hispanic linguist has explicit, conscious knowledge of how these languages work, can communicate that knowledge to others, and can extend the world's stock of knowledge about those languages through original research.

Application and Admission

It is the policy (https://handbook.unc.edu/dual.html) of The Graduate School that "[s]tudents must apply to and be accepted by both programs individually before beginning in the dual degree program. In a practical sense, this means that students should apply to both academic programs at the same time, or apply to the second program no later than during their first year of the first program.Dual degrees will not be awarded after the curricular requirements have already been met without initial application." The applications will be considered separately by the admissions committees of the two departments. Those committees will make the final decision about admission to each department. A student who is not admitted concurrently by both departments is not admitted to the dual track for the relevant term, although he or she may still be admitted to the linguistics M.A. singly by a vote of that department's admissions committee. Based on the prerequisites set forth by the Department of Romance Studies, said student is ineligible for admission to the Romance studies Ph.D. for that term, though he or she may reapply to that degree for a later term. (A prospective student who already has an M.A. in linguistics cannot receive a second M.A. in the same field, hence is not eligible for the dual track, and should apply directly to the Romance studies Ph.D.)

A prospective student whose degree intent is a terminal M.A. in linguistics with concentration in Hispanic linguistics need only apply to the Linguistics Department. If the student later wants to be admitted to the dual track before completing the M.A., he or she must apply only to the Ph.D. in Romance studies during the first year of the M.A. If the student completes, or is in the second year and expects to complete, the M.A. and wants to be admitted to the Ph.D. in Romance studies, he or she must apply to the Department of Romance Studies.

Click here (http://gradschool.unc.edu/admissions/instructions.html) for information and guidelines on the The Graduate School's admissions application. Prospective students will submit their applications electronically to The Graduate School. Applications are only accepted for study beginning in the fall semester of each year. Recommenders must submit their letters electronically through the online application system. We do not accept any recommendations on paper or via e-mail. To be considered for competitive Graduate School fellowships, an applicant must submit all materials by the second week of December. (Actual date changes with the semester.) This includes GRE scores, transcripts, letters of recommendation, statement of purpose, writing sample, and the audio file referred to below. (All are to be submitted electronically.) Prospective students do not send hard copies of transcripts when applying. They are only uploaded into their application. If the students are admitted they will then have to submit hard copies of their FINAL transcript to The Graduate School only. Departmental funding (usually in the form of a teaching assistantship) may still be available to those who apply no later than the second week of January (the actual date changes with the semester) for Fall admission. Although applications received up to the latter date will be considered, it is strongly recommended that materials be submitted by December 15th.

Please note that in addition to the application materials that The Graduate School requests (such as the GRE), the dual track would like to receive the following three items:

* A one-page statement (written in English) in which the student explains his/her reasons for pursuing a graduate degree in Hispanic linguistics. S/he should also detail the areas of the proposed field.

* A writing sample in Spanish, such as a term paper that s/he has written for a course or a published article.

* An audio file of a few minutes' duration, on which s/he identifies herself by name in English; then speaks in Spanish about her professional goals and reads (also in Spanish) a short passage of his/her choice. The audio file is to be submitted to romlgrad@unc.edu. This last item is particularly important if the student is applying for a teaching assistantship.

The prerequisite for admission to the M.A. track with concentration in Hispanic linguistics is completion of a bachelor's degree and knowledge of Spanish.

Advising

The dual track will be served by the graduate advisors in each department. M.A. advising will be the responsibility of the linguistics graduate advisor, while Ph.D. advising will be the responsibility of the Romance studies graduate advisor.

A student who is admitted to the dual track is admitted simultaneously to the linguistics M.A. program and the Romance studies Ph.D. program, and must accept both admission offers before enrolling in classes. In any given semester, the student must be term-activated in one program or the other. Incoming students will normally be term-activated in the linguistics M.A. for approximately the first two years before switching their term activation to the Romance studies Ph.D. Regardless of which program the student is term-activated in, however, he or she may, in any semester, make progress towards the requirements of either program, or of both. Dual track students should ensure they have successfully submitted an application to graduate for each of their intended degree programs.

Graduate Certificate in Computational Linguistics

Students admitted to the graduate certificate in computational linguistics must complete three courses (nine credit hours), of which one course may be counted towards their home degree. Students with background in linguistics must complete three courses from the following list:

Code	Title	Hours
COMP 455	Models of Languages and Computation	3
COMP 486/ INLS 512	Applications of Natural Language Processing	3
COMP 562	Introduction to Machine Learning [H]	3
COMP 755	Machine Learning	3
INLS 509	Information Retrieval	3
INLS 613	Text Mining	3
INLS 690	Intermediate Selected Topics (Data Mining: Methods and Applications)	1-3

H Honors version available. An honors course fulfills the same requirements as the nonhonors version of that course. Enrollment and GPA restrictions may apply.

Students with background in computer science or information science must complete three courses from the following list:

Code	Title	Hours
LING 401	Introduction to Computational Linguistics	3
LING 427	Morphology	3
LING 460	Making Sense of Big Data: Textual Analysis with R	3
LING 520	Linguistic Phonetics	3
LING 523	Phonological Theory I	3
LING 528	Language Acquisition I	3
LING 530	Syntactic Theory I	3
LING 537	Semantic Theory I	3
LING 540	Mathematical Linguistics	3

Students with background in other areas and non-degree-seeking students will be advised individually on a curriculum. In addition, participants in the certificate will participate in a monthly brown bag seminar which will feature speakers from academia and industry related to computational linguistics and will promote networking and mentoring in the field.

Following the faculty member's name is a section number that students should use when registering for independent studies, reading, research, and thesis and dissertation courses with that particular professor.

Professors

Misha Becker (12), Language Acquisition, Psycholinguistics, Language Revitalization
David Mora-Marín (15), Historical Linguistics, Mayan Linguistics, Linguistic Anthropology
Elliott Moreton (8), Phonetics, Phonology, Cognitive Science
Paul Roberge (17), Pidgins and Creoles, Historical Linguistics, Germanic Linguistics

Jennifer L. Smith (7), Phonology, Phonetics, Japanese

Associate Professors

Katya Pertsova (10), Computational Linguistics, Morphology
J. Michael Terry (9), Semantics, African American English
Brian Hsu (6), Syntax, Phonology

Assistant Professor

Daoxin Li (3), Computational Linguistics, Language Acquisition
Jessica Vélez-Avilés (4), Hispanic Linguistics, Sociolinguistics

Adjunct Faculty

Becky Butler, Phonetics, Phonology, Southeast Asian Linguistics
Masako Hirotani, Linguistics, Cognitive Science, Psycholinguistics, Neurocognition of Language, Auditory Language Processing
Sophia Strietholt, Second Language Acquisition, German

In Other Departments

Jennifer Arnold (Department of Psychology), Psychology and Psycholinguistics
Mohit Bansal (Department of Computer Science)
Uffe Bergeton (Department of Asian Studies), Early Chinese Language, History, and Thought
Lucia Binotti (Department of Romance Studies), Spanish Philology, Cultural Thought, Linguistic Historiography
Laura Demsey (Department of Romance Studies), Language Contact, First and Second Language Acquisition
Bruno Estigarribia (Department of Romance Studies), Spanish Linguistics, Language Development and Cognition
Nina Furry (Department of Romance Studies), French Linguistics
Peter C. Gordon (Department of Psychology), Psychology of Language
Lamar Graham (Department of Romance Studies), Romance Linguistics, Syntax
Thomas Hofweber (Department of Philosophy), Philosophy of Language
Wendan Li (Department of Asian Studies), Chinese Linguistics, Discourse
Jim Pryor (Department of Philosophy)
Martha Ruiz-Garcia (Department of Romance Studies)
Gillian Russell (Department of Philosophy), Philosophy of Language
Patricia E. Sawin (Department of American Studies), Ethnography of Communication

Professors Emeriti

Randall Hendrick
H. Craig Melchert
Patrick O'Neill (Department of English and Comparative Literature), Celtic Languages

Advanced Undergraduate and Graduate-level Courses

LING 401. Introduction to Computational Linguistics. 3 Credits.
An introduction to computational linguistics, a subfield of linguistics that explores natural language using computational tools and perspectives. We'll be using Python to analyze language structure at various levels, considering how computational approaches can help inform our understanding of natural language phonology, syntax, and semantics. We will also consider applications in natural language processing including, but not limited to, topics like segmentation, part-of-speech tagging, and parsing.

Rules & Requirements

IDEAs in Action Gen Ed: FC-QUANT, FC-LAB.
Requisites: Prerequisite, LING 101.
Grading Status: Letter grade.

LING 402. Voices of Diversity: Social Perspectives on Second Language Acquisition. 3 Credits.
This seminar examines the relationship between language learning and diverse social contexts, focusing on how culture, identity, and community influence second language acquisition (SLA). Students will explore theoretical frameworks and empirical methods, with emphasis on quantitative and qualitative approaches. Through data collection, analysis, and hypothesis testing, we will assess the strengths and limitations of these methods in understanding SLA's social dynamics. Case studies and collaborative projects will highlight the lived experiences of diverse language learners, encouraging critical thinking and empathy. By course end, students will gain both theoretical insight and empirical research skills.

Rules & Requirements

IDEAs in Action Gen Ed: FC-QUANT.
Grading Status: Letter grade.
Same as: GSLL 402.

LING 410. Advanced Philosophy of Language. 3 Credits.
At least two courses in philosophy other than PHIL 155, including PHIL 345, strongly recommended. A study of important contemporary contributions in philosophy of language. Topics include meaning, reference, and truth.

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.
Same as: PHIL 445, LING 445.

LING 422. Research Methods in Phonetics and Laboratory Phonology. 3 Credits.
Focuses on the practical skills required to carry out basic experiments in speech production or perception. Includes training in a general-purpose programming language (such as Perl) for automating repetitive tasks, experiment-control software, audio stimulus manufacture and editing, palatography, aerodynamic measurements, and other laboratory techniques relevant to student interests.

Rules & Requirements
Requisites: Prerequisite, LING 200, 520, 523, or SPHS 540.
Grading Status: Letter grade.

LING 427. Morphology. 3 Credits.
Cross-linguistic investigation of internal word structure: inflection and derivation, word formation rules versus affixation, autosegmental morphology, morpholexical and morphophonemic rules, and the interaction of morphology with phonology and syntax. Previously offered as LING 527.

Rules & Requirements
Requisites: Prerequisite, LING 101 or 400.
Grading Status: Letter grade.

LING 428. Bilingualism and Second-Language Acquisition. 3 Credits.
This course covers theoretical issues in childhood simultaneous bilingualism, and child and adult second-language acquisition, under both naturalistic and classroom learning circumstances.

Rules & Requirements
IDEAs in Action Gen Ed: FC-KNOWING.
Requisites: Prerequisite, LING 101.
Grading Status: Letter grade.

LING 444. Origin and Evolution of Human Language. 3 Credits.
Recommended preparation, at least one higher-level core course in linguistics. Surveys current answers to such questions as, When and how did language first appear? What do other animal communication systems share with language? Do restricted linguistic systems (e. g., pidgins) preserve "fossils" of early human language?

Rules & Requirements
Requisites: Prerequisite, LING 101.
Grading Status: Letter grade.

LING 445. Advanced Philosophy of Language. 3 Credits.
At least two courses in philosophy other than PHIL 155, including PHIL 345, strongly recommended. A study of important contemporary contributions in philosophy of language. Topics include meaning, reference, and truth.

Rules & Requirements
IDEAs in Action Gen Ed: FC-KNOWING.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.
Same as: PHIL 445, LING 410.

LING 458. Writing Systems: Past, Present, Future, Fictional. 3 Credits.
This course provides an introduction to the linguistic structure and historical development of the world's writing systems (e.g. Sumerian, Egyptian, Chinese, Greek, Semitic scripts, Indian abugidas, Olmec, Mayan, Incan), the methods for their decipherment and analysis, the cross-script generalizations that can be proposed through their comparative study, and the techniques for developing a new writing system for a previously unwritten language, as well as for inventing a language and writing system from scratch.

Rules & Requirements
Requisites: Prerequisite, LING 101; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

LING 460. Making Sense of Big Data: Textual Analysis with R. 3 Credits.
The course covers methods for working with textual data (corpora, databases, etc.) that include data cleaning techniques, graphing, statistical analysis, web-scraping, and categorization models. Students will complete their own data project by the end of the course.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

LING 484. Discourse and Dialogue in Ethnographic Research. 3 Credits.
Study of cultural variation in styles of speaking applied to collection of ethnographic data. Talk as responsive social action and its role in the constitution of ethnic and gender identities.

Rules & Requirements
Grading Status: Letter grade.
Same as: ANTH 484, FOLK 484.

LING 490. Advanced Topics in Linguistics. 3 Credits.
Directed readings on linguistic topics not covered in specific courses.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 9 total credits. 3 total completions.
Grading Status: Letter grade.

LING 493. Internship in Linguistics. 3 Credits.
Permission of instructor. This course allows students to integrate theoretical knowledge with practice through an internship experience in the field of linguistics. Students may work with businesses or organizations in the areas of computational linguistics, language documentation, education, publishing, or other related fields. Activities must be approved by faculty and supervised by a mentor.

Rules & Requirements
IDEAs in Action Gen Ed: HI-INTERN.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Pass/Fail.

LING 495. Individual Mentored Research. 1-3 Credits.
Permission of instructor. Students carry out a research project of their own design under the direct supervision of a faculty mentor. This course is intended for advanced, motivated students who would like to pursue an in-depth research project within a single semester.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Repeat Rules: May be repeated for credit. 6 total credits. 6 total completions.
Grading Status: Letter grade.

LING 496. Independent Study in Linguistics. 1-3 Credits.
LING 101 and additional coursework in linguistics strongly recommended. An intensive directed readings course or a mentored project; topic to be determined in consultation with the instructor. Permission of the director of undergraduate studies.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 12 total completions.
Grading Status: Letter grade.

LING 503. Structure of American Sign Language. 3 Credits.
Introduces the linguistic structures of American Sign Language, including phonology, morphology, and syntax. Also covers gesture/homesign, sign language acquisition and language transfer.

Rules & Requirements

IDEAs in Action Gen Ed: GLBL-LANG.
Requisites: Prerequisite, SPHS 402 or permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Global Language: Level 3.

LING 520. Linguistic Phonetics. 3 Credits.
Introduction to the general principles of linguistic phonetics; anatomy of vocal tract, physiology of speech production, universal phonetic theory. Practice in the recognition and transcription of speech sounds.

Rules & Requirements

IDEAs in Action Gen Ed: FC-NATSCI or FC-QUANT.
Grading Status: Letter grade.
Same as: ANTH 520.

LING 522. Experimental Phonetics and Laboratory Phonology. 3 Credits.
This course relates linguistic theory to experimental findings. Students design and carry out experiments to test theoretical issues of current theoretical importance.

Rules & Requirements
Requisites: Prerequisites, LING 520, and 200 or 523.
Grading Status: Letter grade.

LING 523. Phonological Theory I. 3 Credits.
Permission of the instructor for undergraduates. Introduction to the principles of modern generative phonology. Methods and theory of phonological analysis. Students may not receive credit for both LING 200 and LING 523.

Rules & Requirements
Requisites: Prerequisite, LING 520, or SPHS 530 or 540.
Grading Status: Letter grade.
Same as: ANTH 523.

LING 524. Phonological Theory II. 3 Credits.
Intermediate phonological theory and analysis.

Rules & Requirements
Requisites: Prerequisite, LING 200 or 523.
Grading Status: Letter grade.

LING 525. Introduction to Historical and Comparative Linguistics. 3 Credits.
Permission of the instructor for undergraduates. Theories and methods of historical and comparative linguistics, with emphasis upon the Indo-European family. Students may not receive credit for both LING 202 and LING 525.

Rules & Requirements
Grading Status: Letter grade.

LING 526. Second-Language Phonetics and Phonology. 3 Credits.
Production, perception, and phonological patterns and processes in second-language learning and use. Effects of first-language transfer and universal linguistic factors. Seminar-style class based on primary literature.

Rules & Requirements
Requisites: Prerequisite, LING 101.
Grading Status: Letter grade.

LING 528. Language Acquisition I. 3 Credits.
Permission of the instructor for undergraduates. One course in phonology or syntax recommended. Child language from a theoretical perspective. Topics include segmentation problems, acquisition of phonology, morphology and syntax, lexical acquisition, and language development in blind and deaf children and in bilinguals. Students may not receive credit for both LING 203 and LING 528.

Rules & Requirements
Grading Status: Letter grade.

LING 529. Language Acquisition II. 3 Credits.
This course focuses on the development of syntax in first-language acquisition in children. Topics will include parameter setting, null subjects, root infinitives, aspect, A-movement, binding theory, and control.

Rules & Requirements
Requisites: Prerequisites, LING 203 or 528, and LING 201 or 530.
Grading Status: Letter grade.

LING 530. Syntactic Theory I. 3 Credits.
Permission of the instructor for undergraduates. Methods and theory of grammatical analysis within the transformational generative framework. Special emphasis on analyzing syntactic and semantic structures of English. Students may not receive credit for both LING 201 and LING 530.

Rules & Requirements
Grading Status: Letter grade.

LING 533. Syntactic Theory II. 3 Credits.
Methods and theory of grammatical analysis, with special reference to transformational grammar.

Rules & Requirements
Requisites: Prerequisite, LING 530.
Grading Status: Letter grade.

LING 537. Semantic Theory I. 3 Credits.
Semantics as a part of linguistic theory: co- and disjoint reference among nominals, "crossover" phenomena, quantifier scope, lexical semantics, Montague grammar and compositional semantics, and explanatory universals in semantic theory.

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING.
Requisites: Prerequisite, LING 101 or 400.
Grading Status: Letter grade.

LING 538. Semantic Theory II. 3 Credits.
A continuation of LING 537 (Semantic Theory I), this course prepares the student to read the formal semantic literature and to do original research in the field.

Rules & Requirements
Requisites: Prerequisite, LING 537.
Grading Status: Letter grade.

LING 539. Language of Time. 3 Credits.
The representation of time and temporal relations in natural languages. Cross-linguistic study of tense and aspect distinctions, modality, temporal adverbials, temporal anaphora, and sequences of tenses.

Rules & Requirements
Requisites: Prerequisite, LING 101 or 400.
Grading Status: Letter grade.

LING 540. Mathematical Linguistics. 3 Credits.
Introduction to topics in logic, set theory, and modern algebra with emphasis on linguistic application. Automata theory and the formal theory of grammar with special reference to transformational grammars. No previous mathematics assumed.

Rules & Requirements
IDEAs in Action Gen Ed: FC-QUANT.
Requisites: Prerequisite, LING 101.
Grading Status: Letter grade.

LING 541. Sociolinguistics. 3 Credits.
Introduction to the study of language in relation to society; variation as it correlates with socioeconomic status, region, gender; the social motivation of change; language and equality; language maintenance, planning, shift.

Rules & Requirements
Requisites: Prerequisite, LING 101 or 400.
Grading Status: Letter grade.
Same as: ANTH 541.

LING 542. Pidgins and Creoles. 3 Credits.
Examination of the social contexts of language contact and their linguistic outcomes, with particular emphasis on the formation of pidgins and creoles. The course investigates the structural properties of these new contact languages and evaluates the conflicting theories that explain their genesis.

Rules & Requirements
Requisites: Prerequisite, LING 101 or 400.
Grading Status: Letter grade.

LING 543. Language in Politics. 3 Credits.
Examines language as a political issue in the 19th and 20th centuries. Emphasis placed on American and British politics but attention to one other national context as well.

Rules & Requirements
Grading Status: Letter grade.

LING 545. Language and Mind. 3 Credits.
The course treats the relationship among linguistics, artificial intelligence, neurobiology, cognitive psychology, and the philosophies of mind, language, and science.

Rules & Requirements
IDEAs in Action Gen Ed: FC-KNOWING.
Requisites: Prerequisite, ENGL 213, LING 101, LING 400, or PHIL 145; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

LING 547. Language Deficits and Cognition. 3 Credits.
Survey of the linguistic properties associated with aphasia, autism, Williams syndrome, dyslexia, and schizophrenia. Emphasis on the implications of these conditions for theories of mind.

Rules & Requirements
IDEAs in Action Gen Ed: FC-KNOWING.
Requisites: Prerequisite, LING 101 or 400.
Grading Status: Letter grade.

LING 550. Introduction to Indo-European: Phonology. 3 Credits.
A survey of the phonological systems of the major Indo-European languages and their development from Proto-Indo-European.

Rules & Requirements
Grading Status: Letter grade.

LING 551. Introduction to Indo-European: Morphology. 3 Credits.
Introduction to the major morphological categories in the Indo-European languages and their development from the proto-language.

Rules & Requirements
Requisites: Prerequisite, LING 550.
Grading Status: Letter grade.

LING 558. Ancient Mayan Hieroglyphs. 3 Credits.
This course is an introduction to the ancient scripts of pre-Columbian Mexico and Central America. It focuses on ancient Mayan hieroglyphs, describing their orthographic and linguistic structure, and highlighting methods for investigating the script using the Maya Hieroglyphic Database (5,000 inscriptions comprising 85,565 records). Students will write a research paper consisting of a linguistic and quantitative (descriptive, inferential statistical) analysis of a particular phenomenon of the script.

Rules & Requirements
IDEAs in Action Gen Ed: FC-KNOWING or FC-QUANT.
Grading Status: Letter grade.

LING 560. Mesoamerican Languages and Linguistics. 3 Credits.
Surveys the basic characteristics that unify Mesoamerica as a cultural and linguistic area (e.g. sound systems, word order, color systems, diffused vocabulary, etc.), the basic sources of cultural and linguistic information available (e.g. ancient hieroglyphs, colonial manuscripts, contemporary documents, linguistic fieldwork), and the consequences of ancient and modern cross-cultural interaction.

Rules & Requirements
Grading Status: Letter grade.

LING 561. Native Languages of the Americas. 3 Credits.
This course explores the phonological and morphological structure of selected Amerindian languages indigenous to the Americas. Emphasis is on the linguistic analysis of original as well as published primary data.

Rules & Requirements
Requisites: Prerequisite, LING 101 or 400.
Grading Status: Letter grade.

LING 562. Structure of Russian. 3 Credits.
Examines Russian from the perspective of linguistic analysis. How do sounds, words, and sentences pattern in Russian? How do these compare with patterns in other languages? Also considers the influence of evidence from Russian on the development of linguistic theory.

Rules & Requirements
Requisites: Prerequisite, LING 101 or RUSS 102; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Same as: RUSS 562.

LING 563. Structure of Japanese. 3 Credits.
Introductory linguistic description of modern Japanese. For students of linguistics with no knowledge of Japanese and students of Japanese with no knowledge of linguistics.

Rules & Requirements
IDEAs in Action Gen Ed: FC-KNOWING.
Requisites: Prerequisite, JAPN 102 or LING 101.
Grading Status: Letter grade.
Same as: JAPN 563.

LING 564. History of the French Language. 3 Credits.
The phonology, morphology, and syntax of French are traced from the Latin foundation to the present. Lectures, readings, discussions, and textual analysis. In English.

Rules & Requirements
Requisites: Prerequisites, FREN 300, and one additional course above FREN 330; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.
Same as: FREN 564.

LING 565. French Phonetics and Phonology. 3 Credits.
Study of the sound system and prosody features of standard French, emphasizing practical application in a variety of oral activities. Requires learning linguistic terminology and the phonetic alphabet.

Rules & Requirements
Requisites: Prerequisite, FREN 255, 260, or 262; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Same as: FREN 565.

LING 566. Structure of Modern French. 3 Credits.
Introduction to phonology, morphology, and syntax of modern standard French. Application of modern linguistic theory to the teaching of French.

Rules & Requirements
Requisites: Prerequisites, FREN 300, and one additional course above FREN 330; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.
Same as: FREN 566.

LING 567. Structure of German. 3 Credits.
LING 101 recommended for undergraduates. Introduction to formal analysis of German grammar (phonology, morphophonemics, prosodics, morphology, syntax) within the framework of generative grammar.

Rules & Requirements
Requisites: Prerequisites, GERM 302 and 303; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.
Same as: GERM 501.

LING 573. Linguistic Field Methods I. 3 Credits.
Analysis and description of a language unknown to the class from data solicited from a native-speaker consultant.

Rules & Requirements
IDEAs in Action Gen Ed: FC-KNOWING, FC-LAB.
Requisites: Prerequisites, LING 101, and one of LING 200, 376, or 422.
Grading Status: Letter grade.

LING 574. Linguistic Field Methods II. 3 Credits.
Continuation of LING 573.

Rules & Requirements
Grading Status: Letter grade.

LING 578. Comparative History of the Romance Languages. 3 Credits.
The linguistic study of the evolution of Spanish, Portuguese, French, and Italian (and other Romance languages) from their common ancestor of Latin. Emphasis on phonological, morphological, syntactic, and lexical commonalities and divergences among the languages.

Rules & Requirements
IDEAs in Action Gen Ed: FC-PAST.
Requisites: Prerequisite, FREN 300 or ITAL 300 or PORT 310 or SPAN 300; OR graduate standing; OR permission of instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Same as: ROML 578.

LING 583. History and Philosophy of Linguistics. 3 Credits.
Linguistic theories from classical times to the present with special emphasis on the origins of contemporary theories.

Rules & Requirements
Requisites: Prerequisite, LING 101.
Grading Status: Letter grade.

LING 676. Advanced Spanish Phonology. 3 Credits.
Topics in Spanish phonology from a range of theoretical perspectives. Autosegmental theory, optimality theory (OT), syllable structure, stress and accent, and the interaction of phonology and morphology.

Rules & Requirements
Requisites: Prerequisite, SPAN 376; OR graduate standing; OR permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Same as: SPAN 676.

LING 678. History of the Spanish Language. 3 Credits.
SPAN 376 desirable. A theoretical study of the evolution of Spanish from classical and spoken Latin, focusing on phonological, morphological, and syntactic phenomena. Intended for linguistics majors.

Rules & Requirements
Requisites: Prerequisite, SPAN 360; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Same as: SPAN 678.

LING 681. Spanish Semantics. 3 Credits.
This course is an upper undergraduate/graduate-level introduction to the study of the meaning of words and sentences, with a focus on Spanish. It covers the following topics: truth-conditional theories of meaning, modality, quantification, reference, tense and aspect, Aktionsart. The course also addresses cross-linguistic data collection, e.g., field work and experimental methods.

Rules & Requirements
Requisites: Prerequisite, SPAN 360.
Grading Status: Letter grade.
Same as: SPAN 681.

LING 691H. Senior Honors Thesis. 3 Credits.
See the program for honors in the College of Arts and Sciences and the department honors advisor.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

LING 692H. Senior Honors Thesis. 3 Credits.
See the program for honors in the College of Arts and Sciences and the department honors advisor.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

Graduate-level Courses

For Irish and Welsh, see English; for Hebrew, see Religious Studies; for Arabic, Chinese and Japanese, see Asian Studies in the Undergraduate Bulletin.

LING 700. Linguistics Colloquium. 1 Credits.
This course corresponds to our weekly department colloquium, which gives students an opportunity to learn about current research in the field from local and external invited speakers, present their own work in progress or completed thesis research, and to engage in a variety of professional development activities led by faculty.

Rules & Requirements
Repeat Rules: May be repeated for credit. 4 total credits. 4 total completions.
Grading Status: Letter grade.

LING 712. Advanced Studies in Philosophy of Language. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.
Same as: PHIL 745.

LING 715. Advanced Methods in Phonology. 3 Credits.
Methods of theoretical argumentation in generative phonology with emphasis on recent proposals in the published literature.

Rules & Requirements
Requisites: Prerequisite, LING 524.
Grading Status: Letter grade.

LING 716. Advanced Methods in Syntax. 3 Credits.
Examination of recent developments in the theory and methods of syntactic analysis.

Rules & Requirements
Requisites: Prerequisite, LING 533; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

LING 723. Seminar in Anthropological Linguistics. 3 Credits.
Selected topics from general linguistics and sociolinguistics, special emphasis on methods and problems involved in analysis and description of semantic structure of language and its relation to the rest of culture.

Rules & Requirements
Grading Status: Letter grade.
Same as: ANTH 723.

LING 730. Comparative Grammar of Ancient Languages. 3 Credits.
Introductory and advanced work in the earlier stages of extant languages and in extinct languages.

Rules & Requirements
Grading Status: Letter grade.

LING 790. Dialectology. 3 Credits.
Principles and methods of areal linguistics and social dialectology.

Rules & Requirements
Grading Status: Letter grade.
Same as: ANTH 790.

LING 794. Linguistic Field Methods II. 3 Credits.
Continuation of LING 573.

Rules & Requirements
Grading Status: Letter grade.

LING 814. History of the English Language. 3 Credits.
Study of English from its Proto-Indo-European origins through the 18th century focusing on historic events and the major changes to the structure and usage of English they occasioned.

Rules & Requirements
Grading Status: Letter grade.
Same as: ENGL 814.

LING 860. Seminar. 3 Credits.
Topics vary to include specialized areas of linguistics study.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

LING 861. Seminar. 3 Credits.
Seminar in phonological theory.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

LING 862. Seminar. 3 Credits.
Seminar in grammatical theory.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

LING 893. Current Problems in Linguistics. 3 Credits.
This course explores relations of linguistics with neighboring fields and theoretical problems of current relevance within linguistics itself; some attention given to pedagogical methodology.

Rules & Requirements
Grading Status: Letter grade.

LING 897. Special Readings. 3 Credits.
Readings in linguistic topics that are not covered in the existing courses.

Rules & Requirements
Grading Status: Letter grade.

LING 992. Master's (Non-Thesis). 3 Credits.
Non-Thesis Option

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.

LING 993. Master's Research and Thesis. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

LING 994. Doctoral Research and Dissertation. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

Contact Information

Department of Linguistics
Visit Program Website (https://linguistics.unc.edu/)
104A Smith Building, CB# 3155
(919) 962-1192

Chair
Misha Becker

Director of Graduate Studies and Admissions
Elliott Moreton

DEPARTMENT OF MATERNAL AND CHILD HEALTH (GRAD)

The Gillings School's Department of Maternal and Child Health, founded in 1950 and the only academic department of its kind, is a globally recognized leader in research, education, and public health practice.

We are dedicated to improving the health of women, children, and families — domestically and globally. Our teaching program provides students with broad exposure to maternal and child health population needs and priorities, as well as with the skills to become leaders of tomorrow. Our faculty members represent a rich mix of academic backgrounds and interests and contribute their expertise and leadership in a wide range of disciplines. We invite you to join us as we embark upon an exciting new year of scholarship, leadership, and service.

Degrees and Programs

Master of Public Health (M.P.H.) Programs

Master of Public Health (M.P.H. Residential) (https://sph.unc.edu/resource-pages/master-of-public-health/maternal-child-and-family-health-concentration/)

The Master of Public Health (M.P.H.) concentration in Maternal, Child and Family Health (MCFH) focuses on the determinants, mechanisms, and systems that promote and maintain the health and safety of women, children, and their families to enhance the future health and welfare of society. Our field is population-based and interdisciplinary, and we provide a strong foundation of knowledge, frameworks, and methods for program monitoring, process/impact evaluation, and program planning and implementation. As graduates, students will be equipped with a highly adaptable toolkit and prepared to lead interdisciplinary efforts that require multiple perspectives and competencies in domestic and global contexts. The degree is designed for students who have a bachelor's degree and is intended for applicants who plan a practice career. It requires 42 credit hours, entailing SPH integrated core courses, MCFH core courses, and three elective courses.

Dual Master of Public Health and Master of Social Work (M.P.H.-M.S.W. Residential) (https://sph.unc.edu/resource-pages/mph-dual-degree-partnerships/)

A cooperative arrangement between the Gillings School and the School of Social Work (SSW), the Dual Master of Public Health and Master of Social Work provides knowledge of the major factors associated with maternal health and child health, principles and methods for improving the health of mothers and children, and principles and methods of program planning, management, consultation, and policy analysis in the U.S. and in international settings. The program provides skills related to program planning, implementation, and evaluation; limited scientific investigation; computer applications; interdisciplinary functioning; and consultation as they relate to maternal and child health. The program objective is to develop a public health perspective consistent with population-based strategies for solving community health problems, addressing the responsibility of government and the contributions of scientific investigation and the interdisciplinary approach.

Dual Master of Public Health and Doctor of Pharmacy (M.P.H.-Pharm.D. Residential) (https://sph.unc.edu/resource-pages/mph-dual-degree-partnerships/)

The objective of the Pharm.D./M.P.H. dual degree is to prepare students for an ever-expanding pharmacist role that increasingly requires proficiency in medication therapy management and health promotion on an individual patient, regional, state, and national level. A public health pharmacist is expected to use their pharmacotherapeutic knowledge and skills, in combination with their public health skills, to "plan, organize, manage, and perform drug-related activities within a specific public health focus or within a public health setting.

Doctoral Program (Ph.D.)

The Doctor of Philosophy (Ph.D.) is a residential degree program which develops research scholars capable of producing and disseminating new knowledge and methods for the public health profession in the field of maternal and child health. Each doctoral student is expected to develop and demonstrate competence in at least three areas: core maternal and child health content, research methods, and a chosen area of specialization. The specialization area will be related to the student's dissertation research.

Master of Public Health (M.P.H.) - Maternal, Child, and Family Health Concentration

At the Gillings school, we're dedicated to improving the health of women, children and families - in North Carolina and around the world.##Women and children are the largest component of the global population, but experience has shown that — absent categorical attention — their needs are not equitably addressed.

Students in the Maternal, Child and Family Health (https://sph.unc.edu/resource-pages/master-of-public-health/maternal-child-and-family-health-concentration/) Concentration gain substantive knowledge of key determinants affecting the health and well-being of mothers, children and families across the life course. In addition, students learn about prevention and treatment options as well as the research, implementation and monitoring and evaluation strategies to develop and improve programs and policies.

Course Requirements

Requirements for the M.P.H. degree in the Maternal, Child, and Family Health (https://sph.unc.edu/resource-pages/master-of-public-health/maternal-child-and-family-health-concentration/) concentration

Code	Title	Hours
M.P.H. Integrated Core		
SPHG 711	Data Analysis for Public Health	2
SPHG 712	Methods and Measures for Public Health Practice	2
SPHG 713	Systems Approaches to Understanding Public Health Issues	2
SPHG 701	Leading from the Inside-Out	2
SPHG 721	Public Health Solutions: Systems, Policy and Advocacy	2
SPHG 722	Developing, Implementing, and Evaluating Public Health Solutions (MPH Comprehensive Exam administered in class)	4
M.P.H. Practicum		
SPHG 703	MPH Pre-Practicum Assignments	0.50
SPHG 707	MPH Post-Practicum Assignments	0.50
M.P.H. Concentration		
MHCH 701	Foundations of Maternal and Child Health I	3
MHCH 702	Foundations of Maternal and Child Health II	2
MHCH 713	Research Methods in Maternal and Child Health	3

MHCH 713L	Research and Evaluation Methods in Maternal and Child Health Lab	1
MHCH 728	Introduction to Implementation Research and Practice in Maternal, Child and Family Health	3
MHCH 723	Monitoring and Evaluation of Global Health Programs	3
M.P.H. Electives		
Electives (Graduate-level courses, 400+ level at Gillings, 500+ level at UNC)		9
M.P.H. Culminating Experience		
MHCH 992	Master's (Non-Thesis)	3
Minimum Hours		**42**

Admissions

Please visit Applying to the Gillings School (https://sph.unc.edu/students/how-to-apply/) first for details and information. Application to the residential M.P.H. is a 2-step process. Please apply separately to (1) SOPHAS and (2) UNC–Chapel Hill (via the Graduate School application link that will be sent after completing the SOPHAS application). Visit the Graduate School Web site (https://gradschool.sites.unc.edu/master-of-public-health/) for more details. If you are interested in the online M.P.H., please visit the MPH@UNC (https://onlinemph.unc.edu/) website and fill out an inquiry form.

Milestones

- Master's Committee
- Master's Written Examination/Approved Substitute (Comprehensive Exam)
- Thesis Substitute (Culminating Experience)
- Residence Credit
- Exit Survey
- Master's Professional Work Experience (Practicum)

Maternal and Child Health, Doctoral Program (Ph.D.)

The Ph.D. program develops research scholars capable of producing and disseminating new knowledge and methods for the public health profession in the field of Maternal and Child Health. Each doctoral student is expected to develop and demonstrate competence in at least three areas: core Maternal and Child Health content, research methods, and a chosen area of 'specialization.' The specialization area is topic-specific and should be related to the area chosen for the student's dissertation research.

Course Requirements

Code	Title	Hours
Public Health Foundational Courses		
SPHG 600	Introduction to Public Health [1]	3
Core Courses		
MHCH 701	Foundations of Maternal and Child Health I [2]	3
MHCH 702	Foundations of Maternal and Child Health II [2]	2
MHCH 801	Doctoral Research Seminar	3
MHCH 859	Proposal Development for Maternal and Child Health	3
Two Research Method Courses [3]		6
Two Analytic Courses [4]		
MHCH 862	Program Impact Evaluation	3
Minor		
Ph.D. students must declare a minor course of study in another department or program in the School of Public Health. Minors in departments in other Schools can be considered (e.g. Public Policy) but must be approved by the student's faculty advisor and the Associate Chair for Academics. 15 hours of coursework in the minor department are required.		15
Electives		
A minimum total of 13 elective credit hours required. Must be graduate level courses.		13
Thesis/Substitute or Dissertation		
MHCH 994	Doctoral Research and Dissertation (Two semesters for 3 credits each)	6
Minimum Hours		**57**

1. Students with a prior public health degree are not required to take SPHG 600; exemptions are available for those with non-public health degrees from accredited SPHs. Students should discuss with their Academic Coordinator.
2. Students who have an M.P.H. in Maternal and Child Health do not need to take the MHCH 701 and MHCH 702 sequence.
3. All students must complete at least two 3-credit courses in research methods (qualitative, quantitative, or mixed). These courses can be taken outside of the MCH Department but must be approved by the student's faculty mentor.
4. One of the analytic courses is MHCH 862. Students must take a minimum of two **other** quantitative analytic courses that include multivariate analysis. The two additional courses may be taken in other UNC departments, must be approved by the student's faculty mentor, and have no minimum credit hour requirement attached to the non-MHCH 862 courses.

Elective Course Options

Milestones

- Doctoral Committee
- Doctoral Oral Comprehensive Exam
- Doctoral Written Exam
- Prospectus Oral Exam
- Advanced to Candidacy
- Dissertation Defense
- Doctoral Dissertation Approved/Format Accepted
- Residence Credit
- Exit Survey
- Doctoral Research Experience

Following the faculty member's name is a section number that students should use when registering for independent studies, reading, research, and thesis and dissertation courses with that particular professor

Professors

Alessandra Bazzao (005), Maternal and Child Health through Life Course Health Development and Social Innovation for Public Health
Dorothy Cilenti (036), Improved Care Systems for Vulnerable Women and Children, Build Foundational Capabilities of Governmental Public Health Agencies, Systems Integration, Workforce Development, Evidence-Informed Decision-Making

Sian Curtis (049), International Reproductive and Maternal Health, Including Family Planning and Abortion, Monitoring and Evaluation of Population and Health Programs
Julie Daniels, Epidemiology of Reproductive Health, Infant and Child Growth and Development, Autism and Developmental Disabilities, Environmental and Nutritional Exposures Related to Reproductive and Developmental Outcome
Claudia Fernandez (031), Workforce and Leadership Development, Inter-Professional Teams, Leadership Issues in Healthcare and Related Fields
Iheoma Iruka (083), Early Care and Education, Anti-Poverty/Asset-Building Programs, Systems and Policies, Home Visiting and Parenting Programs, Home and Classroom Environment, Anti-Bias, Anti-Racist, Culturally Responsive Practices and Policies
Kavita Singh Ongechi (010), Evaluation of Maternal and Child Health Interventions in Low and Middle-Income Countries, Role of Social Factors on Maternal and Child Health Outcomes, Measurement of Maternal and Child Health Outcomes, Newborn Health
Herbert Peterson (001), Global Health, Maternal and Newborn Health, Including Family Planning, Implementation Science
Ilene Speizer (015), Unintended Pregnancy Prevention, Evaluation of Reproductive Health Programs in Developing Countries, Adolescent Health, Male and Couple Involvement, Gender-Based Violence, HIV Prevention
Alison Stuebe (069), Breastfeeding, Maternal Depression, 4th Trimester Needs

Clinical Professors

John Thorp Jr., Preterm Birth, Birth Asphyxia, Episiotomy, Community Child Health

Associate Professors

Sherri Green (025), Maternal Health, Public Health Leadership, Substance Abuse, Violence Prevention
Larissa Jennings Mayo-Wilson, Improved Sexual and Reproductive Health and HIV in Adolescents and Young Adults, LGBTQ Health, Economic-Strengthening Interventions Reducing Sexual and Reproductive Health Inequities, Biostatistical, Epidemiologic and Respondent-Driven Sampling and Qualitative Analysis
Angela Parcesepe (048), Violence, Mental Health, Substance Use Disorders, Global HIV Prevention, Treatment in Low-Resource Settings
Meghan Shanahan (067), Diagnosis and Treatment of Child Abuse and Neglect, Program Evaluations, Prescription Drug Overdose

Assistant Professors

Janine Barden-O'Fallon (033), Family Planning, Reproductive Health, International Health, Monitoring and Evaluation Methods for Global Health Programs in Developing Countries
Kristin Black (081), Community-Based Participatory Research, Mixed Methods and Racial Equity Approaches to Understand and Address Inequities in Reproductive Health and Chronic Disease Outcomes
Larelle Bookhart (084), Infant Feeding and Breastfeeding, Baby-Friendly Hospital Initiative and Ten Steps to Successful Breastfeeding, Community-Based Maternity Care Workers, Maternal and Child Health Racial and Socioeconomic Inequities
Catherine Sullivan (072), Breastfeeding, Lactation, Birth Practice, Nutrition Education and Support Services, Pediatric Obesity, Maternal Weight Management, Fourth Trimester
Christine Tucker (013), Maternal Health, Birth Outcomes, Practice-Based Research and Program Evaluation, Latino Health, Migrant Farmworker Health
Lindsey Yates, Social Justice, Health Equities, Healthcare Access for Underrepresented Minorities

Teaching Assistant Professor

Caroline Chandler (85), Early Childhood and Adolescent Mental Health and Well-Being, Qualitative and Quantitative Methods
Jon M. Hussey (34), Child Abuse and Neglect, Child and Adolescent Health, Injury Prevention, Population

Adjunct Professors

Jessamy Bagenal, Women, Technology, Climate and Health, Public Health, Surgery, Health Systems
Jose Belizan, International Maternal and Child Health, Implementation Science
Mary Jane Benson, Global Reproductive Health, Program Monitoring and Evaluation
Pouru Bhiwandi, Gynecology, International Women's Health, Public Health, Maternal and Child Health
Dorothy Browne, High-Risk Individuals and their Families (Drugs, HIV and AIDS, Sexual Behavior, etc.) Maternal and Child Health Disparities
Martha Carlough, Global Maternity Care, Global Health Education
Roldolfo Gomez Ponce de Leon, Global Sexual and Reproductive Health
Phillip Graham, Substance Abuse and Violence Prevention, Program Evaluation
Marcia Herman-Giddens, Child Development, Abuse and Advocacy, Infectious Diseases
Vijaya Hogan, Infant Mortality, Prematurity, Health Equity
Marian Johnson-Thompson, Microbiology, Environmental Health
Michael Kafrissen, Clinical Research, Product Development, Aging
Baker Maggwa, Sexual and Reproductive Health, Operations and Implementation Research
Tekleab Mekbib, Implementation Science
Krista Perreira, Immigrant Health, Reproductive Health, Mental Health, Cardiovascular Health, Public Policy Analysis
Doris Rouse, Maternal and Child Health, Global Health, Public and Private Partnerships
Robert Schepbier, Implementation Science
Wendee Wechsberg, HIV Prevention, Women and Gender Issues, Substance Use, Gender-Based Violence
Adam Zolotor, Child Maltreatment, State Health Policy

Adjunct Associate Professors

Joy Baumgartner, Maternal and Child Health, Global Mental Health, Health Services Research and Evaluation
Deborah Billings, Global Sexual and Reproductive Health, Rights and Justice, Pre- and Post-natal Care, Intimate Partner and Sexual Violence, Abortion, and Post Abortion Care
Shelah Bloom, Reproductive Health, Gender-Based Violence in Global Context
Dalia Brahmi, Sexual and Reproductive Health (Safe Abortion and Contraception), Primary Care
Amy Bryant, Family Planning, Obstetrics and Gynecology
Holly Burke, Family Planning, Contraception, HIV Prevention, Youth Sexual and Reproductive Health, Health Communication, Program Evaluation
Cynthia Cassell, Reproductive Health, Global Health, Children with Special Healthcare Needs
Kerith Conron, Social and Psychiatric Epidemiology, LGBT Health
Abigail English, Adolescent Health, Policy and Law, Human Trafficking

Jennifer Fehringer, Global Health Monitoring, Evaluation, Research and Learning, Technical Leadership of Awards, Mixed-Methods Impact Evaluations and Qualitative Components Impact
Alfredo Fort, Sexual and Reproductive Health, Population and Facility-Based Survey Design
Jean Fotso, Maternal and Child Health, Adolescent Reproductive and Sexual Health
Dana Hagele, Policy and Program Development for At-Risk Child Populations, Child Behavioral and Emotional Difficulties
Dilshad Jaff, Global Public Health
Nathalie Kapp, Sexual and Reproductive Health, Most Significantly in the Areas of Contraception and Abortion
Gerri Mattson, Child and Adolescent Preventive Health, Perinatal Depression and Substance Abuse, Foster Care, Mental Health
Donna McCarraher, International Health, Research and Programs in Maternal Health, Family Planning, Service Integration
Elizabeth McClure, Maternal and Newborn Health in Low and Middle-Income Countries
Constance Newman, Gender and Sexual Reproductive Health, Gender Based Violence in the Workforce
Aunchalee Palmquist, Ethnographically Informed Research on Human Lactation, Breastfeeding, Bioethics and Human Rights Frameworks, Reproductive Health Inequities
Tammy Ringel-Kulka, Children's Oral Health, Health Promotion, and Disease Prevention
Lucy Siegel, Health Care Access, Quality, Effectiveness and Cost
David Sokal, Family Planning, Promoting Research on New Male Methods
Elizabeth Tolley, Health Behavior, Contraception, HIV Prevention and Treatment
Sarah Verbiest, Maternal and Child Health, Health Equity, Leadership, Implementation Science
Yudan Wang, Policy Evaluation, Injury Prevention, Quantitative Research Methods

Adjunct Assistant Professors

Kathryn Andersen, Global Health, Abortion, Contraception, Reproductive Health
Mary Ashinyo, Planning, Implementation, Monitoring, and Evaluation of Global Healthcare Facility Quality Improvement
Courtney Bonner, Sexual and Reproductive Health, Mental Health, Substance Use, and Violence, Sustainable Intervention Development
Kristen Brugh, International Health and Development, Mixed-Methods Evaluation in Lower- and Middle-Income Countries
Cecilia Casanueva, Child Maltreatment, Maternal and Child Health
Renee Ferrari, Qualitative Methods, Preventative Health Services, Health Services Research, Maternal and Child Health
William Oscar Fleming, Capacity of the Public Health Workforce to Understand Complex Systems and Collaboratively Design and Implement Public Health Innovations
Melissa Green, Leadership, Social Media, Health Inequity
Joumana Haidar, Implementation Science
Stephanie Hernandez, Health Disparities, LGBT Health, Quantitative Methodology, Population Health
Priya Nanda, Population Reproductive Health and Gender Equality
Logan Nickels, Family Planning, Male Contraception, Biochemistry
Anne Odusanya, Community Health Behavior and Education, Implementation and Evaluation, Equity-Oriented Approaches to Programing and Working with Minoritized Communities
Marcia Cordova-Roth, Maternal, Child and Adolescent Health, Family-Centered Care, Cross-Sector Efforts Addressing Health Care Access Inequities and Disparities
Hannah Silverstein, Impact Evaluation on Effects of Health, Social Protection Programs on MCH Populations
Mallory Turner, Child Development, Racial and Early Life Inequities and Disparities
Stephanie Watson-Grant, Global Health Policy Effects on Health Systems and Health Outcomes, Monitoring and Evaluation
Andra Wilkinson, Adolescent Health Issues, Program Implementation and Outcomes
Katie Wouk, Breastfeeding, Mixed Methods Quality Improvement, Equity Improvement for Quality Care Access

Adjunct Instructors

Leslie deRosset, Maternal and Child Health Inequities and Disparities
Rebecca Greenleaf, MCH, Developmental Disabilities, Curriculum Development, Early Childhood
Amy Mullenix, Workforce Development, Women's Preconception Health

Faculty Emeriti

Trude Bennett
Anita M. Farel
Carolyn T. Halpern
Jonathan B. Kotch
Lewis Margolis
Sandra L. Martin
Diane Rowley

MHCH

Advanced Undergraduate and Graduate-level Courses

MHCH 605. Breastfeeding and Global Health Seminar. 3 Credits.
This survey course will briefly cover the principal topics in this broad field of knowledge, including domestic and global issues.

Rules & Requirements
Grading Status: Letter grade.

MHCH 610. Issues in Maternal and Child Health. 3 Credits.
Permission of the instructor. For students outside the department of MCH who desire a survey of current issues and programs in maternal and child health. Three lecture hours per week.

Rules & Requirements
Grading Status: Letter grade.

MHCH 611. Food And Your Life Stages. 3 Credits.
This course covers nutrition during the life cycle. Units include women during preconception, pregnancy, and lactation; infancy; childhood; adolescence; and older adults (65+). Nutrient and energy needs, assessment of nutritional status, and cultural and socioeconomic barriers are discussed for each phase.

Rules & Requirements
Requisites: Prerequisite, NUTR 240.
Grading Status: Letter grade.
Same as: NUTR 611.

MHCH 625. Injury as a Public Health Problem. 3 Credits.
This course examines unintentional injuries from a public health perspective. The course covers core concepts in injury prevention and control, including the epidemiology of unintentional injury, prevention strategies, behavioral models, child and adolescent injury, messaging framing, the Haddon matrix, and injury surveillance.

Rules & Requirements
Requisites: Corequisite, EPID 600.
Grading Status: Letter grade.
Same as: EPID 625, HBEH 625.

MHCH 626. Violence as a Public Health Problem. 3 Credits.
This course covers core concepts in violence prevention and control, including the epidemiology of violence, prevention strategies for interpersonal and intra-personal violence, behavioral models that describe power structures that reinforce personal and societal factors affecting self-harm and violence towards others, and violence directed towards children and adolescents.

Rules & Requirements
Grading Status: Letter grade.
Same as: EPID 626, HBEH 626.

MHCH 664. Globalization and Health. 3 Credits.
Globalization--its economic, environmental, political, technological, institutional, and sociocultural dimensions--historically and currently contributes to beneficial and adverse effects on population, community, and family and individual health.

Rules & Requirements
Grading Status: Letter grade.
Same as: HPM 664.

MHCH 665. Introduction to Racial and Ethnic Health Disparities. 1 Credits.
Eliminating health disparities is a national goal for improving the health of Americans. Little to no progress has been made on eliminating disparities among racial/ethnic subpopulations compared to the population of the United States. This course treats basic concepts about the origins of and contributing factors for health disparities.

Rules & Requirements
Grading Status: Letter grade.

MHCH 680. Global Sexual and Reproductive Health. 1 Credits.
Featuring international experts from UNC-Chapel Hill and Triangle-based nongovernmental organizations, this course will offer a series of lectures, panel discussions, and debates to inform students' critical thinking on key public health issues in global sexual and reproductive health.

Rules & Requirements
Grading Status: Letter grade.

MHCH 685. Human Sexuality. 1 Credits.
Through lectures and panel discussions this course will use a life span framework to examine selected aspects of sexual development, including perspectives on sexuality; the physical self; sexual attraction, behavior, and relationships; and the implications of these factors for physical and mental health. No prerequisites; all students are welcome.

Rules & Requirements
Grading Status: Letter grade.

MHCH 690. Special Topics in Maternal Health and Child Health. 1-3 Credits.
Special topics in maternal health and child health. Content will vary from semester to semester.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

Graduate-level Courses

MHCH 701. Foundations of Maternal and Child Health I. 3 Credits.
This course introduces the major issues affecting the health and well-being of women during the reproductive years, infants, children, and adolescents in domestic and international settings. First semester of a two-semester course. Permission of the instructor for non-majors.

Rules & Requirements
Grading Status: Letter grade.

MHCH 702. Foundations of Maternal and Child Health II. 2 Credits.
Permission of the instructor for nonmajors. Second part of a two-part course that introduces the major issues affecting the health and well-being of women during the reproductive years, infants, children and adolescents in domestic and international settings. Second semester of a two-semester course.

Rules & Requirements
Requisites: Prerequisite, MHCH 701.
Grading Status: Letter grade.

MHCH 703. Foundations of Maternal, Child, and Family Health. 3 Credits.
This course introduces the major issues affecting the health and well-being of women during the reproductive years, infants, children, and adolescents in domestic and international settings. This is an elective course for non-Maternal, Child, and Family Health Concentration students enrolled in MPH@UNC.

Rules & Requirements
Grading Status: Letter grade.

MHCH 704. Critical Review of an Infant Feeding Issue. 3 Credits.
This independent study will include selection of a research area that would allow preparation of a coauthored paper for peer-review publication on an approved subject related to infant and young child feeding and care and associated maternal health and nutrition issues.

Rules & Requirements
Grading Status: Letter grade.

MHCH 710. Leadership in Maternal and Child Health. 2 Credits.
This course is designed to integrate the theory, research literature, and evidence-supported practices related to leadership in maternal and child health. Students will consider each of the twelve core MCH Leadership Competencies within the spheres of influence that leaders experience as they advance in their careers. Students will hear from public health professionals in the field, consider perspectives of various stakeholders and examine/apply new skills.

Rules & Requirements
Grading Status: Letter grade.

MHCH 713. Research Methods in Maternal and Child Health. 3 Credits.
The art and science of MCH research, with an emphasis on the critical evaluation of research design and findings. Focuses on the principles of strong quantitative and qualitative study designs, analytic approaches, and secondary data analysis. A practice-based course. Three lecture hours per week. Permission of the instructor for nonmajors.

Rules & Requirements
Grading Status: Letter grade.

MHCH 713L. Research and Evaluation Methods in Maternal and Child Health Lab. 1 Credits.
Permission of the instructor for nonmajors. The MHCH 713 lab, which is a companion course to MHCH 713, introduces students to statistical analysis using Stata. One hour and 15 minutes of lab per week.

Rules & Requirements
Requisites: Corequisite, MHCH 713.
Grading Status: Letter grade.

MHCH 716. International Family Planning and Reproductive Health. 3 Credits.
Permission of the instructor for nonmajors. Course provides overview of critical issues including major theoretical frameworks, patterns and trends over time, and overview of history of family planning and reproductive health policy development. Three lecture hours per week.

Rules & Requirements
Grading Status: Letter grade.

MHCH 720. Services for Children with Chronic Conditions. 3 Credits.
Permission of the instructor. This course focuses on the design, organization, and delivery of services for children with special needs and their families, and examines current program development and public policies. Participants analyze the range of services needed by these children.

Rules & Requirements
Grading Status: Letter grade.

MHCH 722. Global Maternal and Child Health. 3 Credits.
This course covers the main causes of maternal and under-five morbidity and mortality in low- and middle-income countries and also the interventions, policies, and research which address these causes. Emphasis is placed on social, biological and environmental determinants, measurement and conceptual frameworks. Lectures, class discussions and in-class activities are used to delve into the material. Emphasis is placed on both country-driven and global initiatives to improve maternal and child health outcomes.

Rules & Requirements
Grading Status: Letter grade.

MHCH 723. Monitoring and Evaluation of Global Health Programs. 3 Credits.
This course provides students with the basic concepts and methodologies needed to monitor and evaluate global health programs. The course covers M&E systems, conceptual frameworks/logic models, indicators, information sources, evaluation designs, and other related topics for health programs in global settings. This course is a requirement for the MCFH and GH concentrations. The course format consists of a seminar-style class that meets weekly.

Rules & Requirements
Grading Status: Letter grade.

MHCH 724. Abortion Care and Policy. 2 Credits.
This course will provide an overview of the critical issues in abortion care and policy, both in the US and globally. We will cover the epidemiology of abortion globally and nationally and will explore the historical, legal, cultural, bioethical and clinical dimensions of abortion care and policy.

Rules & Requirements
Grading Status: Letter grade.

MHCH 726. Adolescent Health. 3 Credits.
Topics covered include the epidemiology of health problems, developmental issues, health services, and psychosocial influences on adolescent problem behaviors. Course materials are useful for research generation and practical application. Three seminar hours per week.

Rules & Requirements
Grading Status: Letter grade.
Same as: HBEH 726.

MHCH 728. Introduction to Implementation Research and Practice in Maternal, Child and Family Health. 3 Credits.
Permission of the instructor for nonmajors. Implementation research and practice addresses the gap between the development of innovations in public health and their delivery in routine practice. Course provides an overview of core theories/methods in implementation research and practice plus implementation determinants and strategies at the intervention, individual, organizational, and policy levels.

Rules & Requirements
Grading Status: Letter grade.

MHCH 729. Implementation Science for Global Maternal and Child Health. 3 Credits.
This course examines contributions of implementation science to global maternal and child health with a focus on research methods. The course builds on introductory implementation science courses to highlight further the application of implementation science theories, frameworks, and tools to challenges in global health.

Rules & Requirements
Requisites: Prerequisite, MHCH 728 (for Master's MCFH students), or an equivalent course if outside MCH; no prerequisites for doctoral students, but prior graduate level courses in research methods are desirable.
Grading Status: Letter grade.

MHCH 732. Gender-Based Violence. 3 Credits.
The MHCH Gender-Based Violence (GBV) course provides a forum for students to explore contemporary issues in GBV from both a research and practice standpoint. Students will be introduced to a myriad of domestic and international GBV issues, such as intimate partner violence and campus sexual assault.

Rules & Requirements
Grading Status: Letter grade.

MHCH 740. Problems in Maternal and Child Health. 1-3 Credits.
Prerequisites to be arranged with departmental faculty in each individual case for this self-/independent-study course. Two to six hours a week.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

MHCH 745. Applied Methods for Health Transformation Implementation in MCH. 1-3 Credits.
MHCH 745 will integrate theory, research literature, and evidence-supported practices that promote optimal population health outcomes in women, children, adolescents, and family. The course will allow participants to examine and apply knowledge and skills that lead to health transformation in the 21st century. Topics include: Title V assessment, current funding for MHCH; equity and the social determinants of health; workforce development; change management and leadership; community engagement; systems thinking; evidence-based decision making; and implementation science.

Rules & Requirements
Grading Status: Letter grade.

MHCH 765. Clinical Support for Breastfeeding. 3 Credits.
Master's or clinical four-year degree required. This two-semester clinical course is structured to provide supervised breastfeeding support education in the context of clinical lactation services and public health practice.

Rules & Requirements
Grading Status: Letter grade.

MHCH 766. Clinical Support for Breastfeeding II. 3 Credits.
Master's or clinical four-year degree required. This two-semester clinical course is structured to provide supervised breastfeeding support education in the context of clinical lactation services and public health practice.

Rules & Requirements
Requisites: Prerequisite, MHCH 765.
Grading Status: Letter grade.

MHCH 775. Introduction to Qualitative Methods in Public Health Research. 3 Credits.
This introductory qualitative research methods course focuses on understanding the meaning, purpose, and basic concepts of qualitative research for public health practice. Through applied work, students will learn how to formulate qualitative research questions, develop interview guides, collect data, analyze data, and report findings.

Rules & Requirements
Grading Status: Letter grade.

MHCH 780. Cultural Humility. 2 Credits.
Cultural Humility is part of the required training sequence for first-year MPH students in the Global Health concentration. This course provides students with the skills to work in culturally complex settings and to apply cultural humility when engaging in global health research and practice. This course is also designed to give students the skills to identify and effectively address ethical issues that arise in global health research and practice. MPH Global Health Concentration students only.

Rules & Requirements
Grading Status: Letter grade.

MHCH 785. Decolonizing MCH: Theory and Qualitative Methods. 3 Credits.
This graduate seminar provides Maternal and Child Health (MCH) students with an opportunity to examine key theories and qualitative methodologies that advance anti-racist, abolitionist, intersectional feminist, and emancipatory scholarship for health equity and reproductive justice. Students gain a deeper understanding of the intellectual foundations of research justice. And learn to design research questions, data collection strategies, and analytic techniques that decolonize knowledge production. Preference given to students enrolled in the MCH department or MCFH concentration.

Rules & Requirements
Grading Status: Letter grade.

MHCH 786. Seminar on Black Maternal and Child Health and Well-being. 3 Credits.
Broad objectives for the course are: (1) to gain insights into specific topics in Black maternal and child health and well-being--from the root causes and solutions stemming from research, practice, and policy, and (2) to build an interdisciplinary dialogue and course of action situated clearly in work about and by those who study maternal and child health well-being broadly defined; practitioners and programs; and policies designed to increase access and opportunity. Priority given to 2nd-year MPH students and doctoral students.

Rules & Requirements
Grading Status: Letter grade.

MHCH 801. Doctoral Research Seminar. 3 Credits.
The MCH Doctoral Seminar provides a forum for first year MCH doctoral students to hone their skills in developing research questions, searching scientific literature, and preparing comprehensive literature reviews for publication. It introduces students to several types of literature reviews used to inform health practices, programs and policies. MCH doctoral students only.

Rules & Requirements
Grading Status: Letter grade.

MHCH 840. Maternal and Child Health Doctoral Teaching Internship. 1 Credits.
Enrollment in MCH doctoral program required. MCH internship to enhance doctoral training in teaching.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

MHCH 841. Maternal and Child Health Doctoral Research Internship. 1 Credits.
Enrollment in MCH doctoral program required. This MCH internship is to enhance doctoral training in research through exposure to and participation in various stages of research.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

MHCH 851. Reproductive and Perinatal Epidemiology. 3 Credits.
Epidemiology of reproductive and perinatal health outcomes, including infertility, fetal loss, preterm birth, birthweight, congenital malformations, and infant mortality. Includes current knowledge regarding epidemiology of these outcomes and discussion of methodologic issues. Three lecture hours per week.

Rules & Requirements
Requisites: Prerequisite, EPID 600 or EPID 710 or EPID 711 or SPHG 712.
Grading Status: Letter grade.
Same as: EPID 851.

MHCH 853. Advanced Topics in Perinatal and Pediatric Epidemiology. 2 Credits.
Critical review of current topics in, and methods for, perinatal and pediatric epidemiology.

Rules & Requirements
Requisites: Prerequisites, EPID 710 and 851; Permission of the instructor for master's level students.
Grading Status: Letter grade.
Same as: EPID 853.

MHCH 859. Proposal Development for Maternal and Child Health. 3 Credits.
A course in the development and preparation of a research proposal of high public health significance and methodological rigor, following the format of an NIH application. Students will also be introduced to the NIH review process and engage in critical evaluation of peer assignments. This is a required course for doctoral students. Permission required for non-majors, masters & 1st year doctoral students.

Rules & Requirements
Grading Status: Letter grade.

MHCH 860. Conceptualization, Design, and Measurement. 3 Credits.
The course follows the research process from the formulation of a research question and the design of a research methodology to the addressing of the question through the design of an appropriate analysis strategy. Three lecture hours a week.

Rules & Requirements
Requisites: Prerequisite, MHCH 859; Permission of the instructor for nonmajors and master's students.
Grading Status: Letter grade.

MHCH 862. Program Impact Evaluation. 3 Credits.
Required preparation, basic knowledge of Stata; proficiency in inferential statistics and multiple regression analysis. Instructor permission required for non-second year MCH doctoral students. Program impact evaluation analytic skills seminar. Topics: selectivity, research designs, instrumental variables, difference-in-differences, fixed and random effects, regression discontinuity, matching, and selection models.

Rules & Requirements
Grading Status: Letter grade.

MHCH 890. Special Topics in Maternal and Child Health. 1-3 Credits.
Special topics in Maternal and Child Health for graduate students only. Content will vary semester to semester.

Rules & Requirements
Repeat Rules: May be repeated for credit. 3 total credits. 3 total completions.
Grading Status: Letter grade.

MHCH 992. Master's (Non-Thesis). 3 Credits.
Master's independent learning experience for MCFH students. Please sign up under your faculty mentor's section number.

Rules & Requirements
Repeat Rules: May be repeated for credit.

MHCH 994. Doctoral Research and Dissertation. 3 Credits.
For MCH doctoral students in their dissertation phase. Doctoral students must have passed the Doctoral Written Comprehensive Exams before registering for this course. Please sign up under your faculty advisor's section number.

Rules & Requirements
Repeat Rules: May be repeated for credit.

Contact Information

Department of Maternal and Child Health
Visit Program Website (http://www.sph.unc.edu/mhch/)

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DEPARTMENT OF MATHEMATICS (GRAD)

The Department of Mathematics offers graduate training leading to the degrees of master of arts, master of science, and doctor of philosophy. A master's degree may be included or bypassed in the doctoral program. All of a student's graduate work may be done within the department or, when appropriate, may be done under the direction of an approved advisor in an allied discipline. The Department of Mathematics is housed in Phillips Hall and Chapman Hall. The Department of Mathematics offers a number of teaching assistantships and teaching fellowships each year. Applicants for financial aid are also considered for several University fellowships awarded by The Graduate School in the University-wide competition. Applications for admission and financial assistance may be obtained from The Graduate School. Applications filed by the posted deadline will receive full consideration.

The general regulations of The Graduate School govern the work for graduate degrees in mathematics. Specific requirements are explained below. In general, a graduate student in mathematics may receive credit only for mathematics courses numbered 600 and above.

These descriptions summarize the requirements for the master's and Ph.D. degrees. More detailed statements may be obtained from the department. The director of graduate studies must approve all aspects of a student's program. The purpose of the graduate programs is to develop mathematical skills appropriate for competition in academia or industry.

The course schedule for first-year students will depend upon each student's undergraduate training. The normal course load for a graduate student is three courses (nine credit hours) per semester. Graduate students must maintain full-time status in order to qualify for tuition and health insurance benefits. First-year students typically choose courses from five yearlong sequences in algebra (MATH 676, MATH 677), analysis (MATH 653, MATH 656), geometry-topology (MATH 681, MATH 680), scientific computation (MATH 661, MATH 662), and methods of applied mathematics (MATH 668, MATH 669).

The Ph.D. comprehensive exams are based on the content of the first-year sequences. These exams are offered in January and August of each year, just before the semester begins. A Ph.D. student can pass either the Pure Math option or the Applied Math option for the comprehensive examination. To pass the Pure Math option a student must pass any three of the five comprehensive exams. To pass the Applied Math option, a student is required to pass Methods of Applied Math and Scientific Computation.

During the second year a typical Ph.D. student will take the Ph.D. comprehensive exams and select courses from a list of 20 more advanced "second tier" courses. A typical master's student will complete that degree during the second year. The department considers two years to be the normal time needed to complete a master's degree.

A candidate for a master's degree must satisfy each of the following requirements:

1. Earn at least two semesters of residency credit and complete all requirements within five years
2. Demonstrate computer programming ability by passing an approved undergraduate or graduate course in programming
3. Perform satisfactorily in 30 hours of graduate work in a program approved by the director of graduate studies. At least 15 of these hours must be in Department of Mathematics courses numbered 600 or above
4. Complete a master's project or thesis for a master of science degree or a master's thesis for a master of arts degree
5. Pass an oral examination upon completion of the master's project or master's thesis. The exam will cover coursework as well as the project or thesis
6. A master's candidate must pass one of the written comprehensive exams given to doctoral students.

A candidate for a Ph.D. degree must satisfy each of the following requirements:

1. Earn at least four semesters of residency credit and complete all requirements within eight years
2. Satisfy the same computer programming requirement as a master's student
3. Complete either the Pure Math option or the Applied Math option for comprehensive examinations by the beginning of the sixth semester
4. Pass at least six courses from the following two lists: a) the second tier courses or b) first-year comprehensive courses that are not basic courses for any of the comprehensive exams passed by the student. Of these six courses at least three must be numbered over 700 and drawn from the second tier list.
5. Pass the Teaching Assistant Teaching Seminar and perform a minimum of two semesters of instructional service
6. Pass a preliminary oral exam on the chosen Ph.D. specialty area
7. Write a Ph.D. thesis and defend it successfully during a final oral exam chaired by the thesis advisor

Minor in Mathematics

Graduate students in other departments who plan to offer mathematics as a (complete or partial) minor field for the Ph.D. should consult the director of graduate studies in mathematics for approval of their programs and for assignment of an advisor in the Department of Mathematics. This should be done at the earliest possible time in order to prevent disappointment for the student.

Following the faculty member's name is a section number that students should use when registering for independent studies, reading, research, and thesis and dissertation courses with that particular professor.

Professors

David Adalsteinsson (1), Applied Mathematics and Scientific Computation
Idris Assani (45), Dynamical Systems, Ergodic Theory of Operators
Prakash Belkale (57), Algebraic Geometry
Roberto A. Camassa (16), Mathematical Modeling, Nonlinear Waves, Propagation, Dynamical Systems
Yaiza Canzani (18), Geometric Analysis, Semiclassical Analysis, Perturbation Theory
Ivan V. Cherednik (48), Representation Theory, Mathematical Physics, Algebraic Combinatorics
Hans Christianson (8), Semiclassical Analysis and Partial Differential Equations
M. Gregory Forest (7), Nonlinear Waves, Solitons, Fiber Flows of Complex Liquids

Karin Leiderman Gregg (22), Mathematical biology, Mathematical Modeling of Biochemical Systems, Computational Biofluid Dynamics
Boyce Griffith (10), Numerical Analysis, Mathematical Biology
Jingfang Huang (51), Integral Equation Methods and Fast Algorithms
Shrawan Kumar (46), Representation Theory, Geometry of Flag Varieties
Jeremy Marzuola (9), Partial Differential Equations
Richard McLaughlin (50), Fluid Dynamics and Turbulent Transport
Jason Metcalfe (61), Partial Differential Equations
Sorin Mitran (58), Computational Methods for Partial Differential Equations, Continuum-Kinetic Methods, Fluid Dynamics, Biological Fluid Dynamics and Mechanics
Richard Rimanyi (59), Topology, Geometry, Singularities
Lev Rozansky (52), Three-Dimensional Topology
Justin Sawon (64), Differential Geometry
Alexander N. Varchenko (47), Geometry, Mathematical Physics
Mark Williams (36), Partial Differential Equations

Associate Professors

Olivia Dumitrescu (27), Algebraic Geometry, Enumerative Problems on Moduli Spaces
Jiuzu Hong (13), Representation Theory
Yifei Lou (20), Image Processing, Sparse Signal Recovery, Numerical Analysis and Optimization Algorithms
Katherine Newhall (12), Applied Mathematics, Stochastic Differential Equations
David Rose (17), Categorification, Low-Dimensional Topology, Representation Theory
Andrey Smirnov (19), Representation Theory, Mathematical Physics

Assistant Professors

Arunima Bhattacharya (24), Geometric Analysis, Nonlinear Partial Differential Equations
Shahar Kovalsky (25), Optimization, Computational Geometry, Machine Learning, Medical Imaging
Caroline Moosmueller (23), Geometric Data Analysis, Computational Optimal Transport, Numerical Analysis and Approximation Theory
Casey Rodriguez (26), Partial Differential Equations, Continuum Mechanics
Pedro Saenz (21), Soft Matter Physics, Fluid Dynamics, Physical Mathematics
Philip Tosteson (63), Topology, Combinatorics, Representation Theory
Daping Weng (15), Cluster Theory, Representation Theory, Algebraic Geometry, Symplectic Geometry, and Mathematical Physics

Professors Emeriti

Joseph A. Cima
Patrick Eberlein
Ladnor Gessinger
Sue E. Goodman
Jane M. Hawkins
Christopher K.R.T. Jones
Ancel C. Mewborn
Karl Petersen
Joseph Plante
Robert A. Proctor
Michael Schlessinger
William W. Smith
James Stasheff
Michael E. Taylor
Jonathan M. Wahl
Warren R. Wogen

MATH

Advanced Undergraduate and Graduate-level Courses

MATH 410. Teaching and Learning Mathematics. 4 Credits.
Study of how people learn and understand mathematics, based on research in mathematics, mathematics education, psychology, and cognitive science. This course is designed to prepare undergraduate mathematics majors to become excellent high school mathematics teachers. It involves field work in both the high school and college environments.

Rules & Requirements

IDEAs in Action Gen Ed: COMMBEYOND.
Grading Status: Letter grade.

MATH 435H. Introduction to Probability. 3 Credits.
Introduction to mathematical theory of probability covering random variables; moments; binomial, Poisson, normal and related distributions; generating functions; sums and sequences of random variables; and statistical applications. Students may not receive credit for both STOR 435 and STOR 535.

Rules & Requirements
Requisites: Prerequisites, MATH/STOR 235 or MATH 233; and STOR 215 or STOR 315 or MATH 381 or COMP 283.
Grading Status: Letter grade.
Same as: STOR 435H.

MATH 521. Advanced Calculus I. 3 Credits.
The real numbers, continuity and differentiability of functions of one variable, infinite series, integration. Honors version available.

Rules & Requirements
Requisites: Prerequisites, MATH 233 or MATH 235, and MATH 381; A grade of A- or better in STOR 215 may substitute for MATH 381.
Grading Status: Letter grade.

MATH 522. Advanced Calculus II. 3 Credits.
Functions of several variables, the derivative as a linear transformation, inverse and implicit function theorems, multiple integration. Honors version available.

Rules & Requirements
Requisites: Prerequisites, MATH 383 and 521.
Grading Status: Letter grade.

MATH 523. Functions of a Complex Variable with Applications. 3 Credits.
The algebra of complex numbers, elementary functions and their mapping properties, complex limits, power series, analytic functions, contour integrals, Cauchy's theorem and formulae, Laurent series and residue calculus, elementary conformal mapping and boundary value problems, Poisson integral formula for the disk and the half plane.

Rules & Requirements
Requisites: Prerequisite, MATH 383.
Grading Status: Letter grade.

MATH 524. Elementary Differential Equations. 3 Credits.
Linear differential equations, power series solutions, Laplace transforms, numerical methods.

Rules & Requirements
Requisites: Prerequisite, MATH 383.
Grading Status: Letter grade.

MATH 528. Mathematical Methods for the Physical Sciences I. 3 Credits.
Theory and applications of Laplace transform, Fourier series and transform, Sturm-Liouville problems. Students will be expected to do some numerical calculations on either a programmable calculator or a computer. This course has an optional computer laboratory component: MATH 528L.

Rules & Requirements
Requisites: Prerequisite, MATH 383.
Grading Status: Letter grade.

MATH 528L. Laboratory for Mathematical Methods for the Physical Sciences I. 1 Credits.
Training in the use of symbolic and numerical computing packages and their application to the MATH 528 lecture topics. Students will need a CCI-compatible computing device.

Rules & Requirements
Requisites: Prerequisite, MATH 383; pre- or corequisite, MATH 528.
Grading Status: Letter grade.

MATH 529. Mathematical Methods for the Physical Sciences II. 3 Credits.
Introduction to boundary value problems for the diffusion, Laplace and wave partial differential equations. Bessel functions and Legendre functions. Introduction to complex variables including the calculus of residues. This course has an optional computer laboratory component: MATH 529L.

Rules & Requirements
Requisites: Prerequisite, MATH 521, 524, or 528.
Grading Status: Letter grade.

MATH 529L. Laboratory for Mathematical Methods for the Physical Sciences II. 1 Credits.
Training in the use of symbolic and numerical computing packages and their application to the MATH 529 lecture topics. Students will need a CCI-compatible computing device.

Rules & Requirements
Requisites: Prerequisite, MATH 383; pre- or corequisite, MATH 529.
Grading Status: Letter grade.

MATH 533. Elementary Theory of Numbers. 3 Credits.
Divisibility, Euclidean algorithm, congruences, residue classes, Euler's function, primitive roots, Chinese remainder theorem, quadratic residues, number-theoretic functions, Farey and continued fractions, Gaussian integers.

Rules & Requirements
Requisites: Prerequisite, MATH 381; A grade of A- or better in STOR 215 may substitute for MATH 381.
Grading Status: Letter grade.

MATH 534. Elements of Modern Algebra. 3 Credits.
Binary operations, groups, subgroups, cosets, quotient groups, rings, polynomials.

Rules & Requirements
Requisites: Prerequisite, MATH 381; A grade of A- or better in STOR 215 may substitute for MATH 381.
Grading Status: Letter grade.

MATH 535. Introduction to Probability. 3 Credits.
Introduction to mathematical theory of probability covering random variables; moments; binomial, Poisson, normal and related distributions; generating functions; sums and sequences of random variables; and statistical applications. Students may not receive credit for both STOR 435 and STOR 535.

Rules & Requirements
Requisites: Prerequisites, MATH/STOR 235 or MATH 233; and STOR 215 or STOR 315 or MATH 381 or COMP 283.
Grading Status: Letter grade.
Same as: STOR 435.

MATH 548. Combinatorial Mathematics. 3 Credits.
Counting selections, binomial identities, inclusion-exclusion, recurrences, Catalan numbers. Selected topics from algorithmic and structural combinatorics, or from applications to physics and cryptography.

Rules & Requirements
Requisites: Prerequisite, MATH 381.
Grading Status: Letter grade.

MATH 550. Topology. 3 Credits.
Introduction to topics in topology, particularly surface topology, including classification of compact surfaces, Euler characteristic, orientability, vector fields on surfaces, tessellations, and fundamental group.

Rules & Requirements
Requisites: Prerequisites, MATH 233 or MATH 235, and MATH 381.
Grading Status: Letter grade.

MATH 551. Euclidean and Non-Euclidean Geometries. 3 Credits.
Critical study of basic notions and models of Euclidean and non-Euclidean geometries: order, congruence, and distance.

Rules & Requirements
Requisites: Prerequisite, MATH 381; A grade of A- or better in STOR 215 may substitute for MATH 381.
Grading Status: Letter grade.

MATH 555. Introduction to Dynamics. 3 Credits.
Topics will vary and may include iteration of maps, orbits, periodic points, attractors, symbolic dynamics, bifurcations, fractal sets, chaotic systems, systems arising from differential equations, iterated function systems, and applications.

Rules & Requirements
Requisites: Prerequisite, MATH 383.
Grading Status: Letter grade.

MATH 560. Optimization with Applications in Machine Learning. 3 Credits.
This course will provide an introduction to convex optimization, including convex sets and functions, modeling, conic problems, optimality conditions and algorithms. The second part of the course will address non-convex problems, focusing on contemporary optimization challenges in large-scale optimization and practical approaches for machine learning and deep learning.

Rules & Requirements
Requisites: Prerequisites, MATH 233 or MATH 235, MATH 347 or MATH 577, and COMP 110 or COMP 116.
Grading Status: Letter grade.

MATH 563. Introduction to Fluid Mechanics. 3 Credits.
Mathematical methods applied to problems in fluid dynamics. Particular attention will be given to the power of dimensional analysis and scaling arguments. Topics will include: particle motion (e.g. the dynamics of sports balls), animal locomotion (e.g. swimming and flying), viscous flows (e.g. geological fluid dynamics), rotating and stratified flows (geophysical fluid dynamics), gravity currents and plumes (environmental fluid mechanics), drops, bubbles, and films.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Requisites: Prerequisite, MATH 528.
Grading Status: Letter grade.

MATH 564. Mathematical Modeling in the Life Sciences. 3 Credits.
Requires some knowledge of computer programming. Model validation and numerical simulations using ordinary, partial, stochastic, and delay differential equations. Applications to the life sciences may include muscle physiology, biological fluid dynamics, neurobiology, molecular regulatory networks, and cell biology.

Rules & Requirements
Requisites: Prerequisites, MATH 383 and MATH 347 or MATH 577.
Grading Status: Letter grade.
Same as: BIOL 534.

MATH 566. Introduction to Numerical Analysis. 3 Credits.
Requires some knowledge of computer programming. Iterative methods, interpolation, polynomial and spline approximations, numerical differentiation and integration, numerical solution of ordinary and partial differential equations.

Rules & Requirements
Requisites: Prerequisites, MATH 383 and either MATH 577 or MATH 347.
Grading Status: Letter grade.

MATH 577. Linear Algebra. 3 Credits.
Vector spaces, linear transformations, duality, diagonalization, primary and cyclic decomposition, Jordan canonical form, inner product spaces, orthogonal reduction of symmetric matrices, spectral theorem, bilinear forms, multilinear functions. A much more abstract course than MATH 347.

Rules & Requirements
Requisites: Prerequisites, MATH 381 and 383; A grade of A- or better in STOR 215 may substitute for MATH 381.
Grading Status: Letter grade.

MATH 578. Algebraic Structures. 3 Credits.
Permutation groups, matrix groups, groups of linear transformations, symmetry groups; finite abelian groups. Residue class rings, algebra of matrices, linear maps, and polynomials. Real and complex numbers, rational functions, quadratic fields, finite fields.

Rules & Requirements
Requisites: Prerequisites, MATH 347 or 577 and MATH 381.
Grading Status: Letter grade.

MATH 590. Topics in Mathematics. 3 Credits.
Permission of the instructor. Topics may focus on matrix theory, analysis, algebra, geometry, or applied and computational mathematics.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

MATH 594. Nonlinear Dynamics. 3 Credits.
Interdisciplinary introduction to nonlinear dynamics and chaos. Fixed points, bifurcations, strange attractors, with applications to physics, biology, chemistry, finance.

Rules & Requirements
Requisites: Prerequisite, MATH 383; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Same as: PHYS 594.

MATH 635. Probability II. 3 Credits.
Foundations of probability. Basic classical theorems. Modes of probabilistic convergence. Central limit problem. Generating functions, characteristic functions. Conditional probability and expectation.

Rules & Requirements
Requisites: Prerequisite, STOR 634; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Same as: STOR 635.

MATH 641. Enumerative Combinatorics. 3 Credits.
Basic counting; partitions; recursions and generating functions; signed enumeration; counting with respect to symmetry, plane partitions, and tableaux.

Rules & Requirements
Requisites: Prerequisite, MATH 578.
Grading Status: Letter grade.

MATH 643. Combinatorial Structures. 3 Credits.
Graph theory, matchings, Ramsey theory, extremal set theory, network flows, lattices, Moebius inversion, q-analogs, combinatorial and projective geometries, codes, and designs.

Rules & Requirements
Requisites: Prerequisite, MATH 578.
Grading Status: Letter grade.

MATH 653. Introductory Analysis. 3 Credits.
Requires knowledge of advanced calculus. Elementary metric space topology, continuous functions, differentiation of vector-valued functions, implicit and inverse function theorems. Topics from Weierstrass theorem, existence and uniqueness theorems for differential equations, series of functions.

Rules & Requirements
Grading Status: Letter grade.

MATH 656. Complex Analysis. 3 Credits.
A rigorous treatment of complex integration, including the Cauchy theory. Elementary special functions, power series, local behavior of analytic functions.

Rules & Requirements
Requisites: Prerequisite, MATH 653.
Grading Status: Letter grade.

MATH 657. Qualitative Theory of Differential Equations. 3 Credits.
Requires knowledge of linear algebra. Existence and uniqueness theorems, linear and nonlinear systems, differential equations in the plane and on surfaces, Poincare-Bendixson theory, Lyapunov stability and structural stability, critical point analysis.

Rules & Requirements
Requisites: Prerequisite, MATH 653.
Grading Status: Letter grade.

MATH 661. Scientific Computation I. 3 Credits.
Requires some programming experience and basic numerical analysis. Error in computation, solutions of nonlinear equations, interpolation, approximation of functions, Fourier methods, numerical integration and differentiation, introduction to numerical solution of ODEs, Gaussian elimination.

Rules & Requirements
Grading Status: Letter grade.
Same as: ENVR 661.

MATH 662. Scientific Computation II. 3 Credits.
Theory and practical issues arising in linear algebra problems derived from physical applications, e.g., discretization of ODEs and PDEs. Linear systems, linear least squares, eigenvalue problems, singular value decomposition.

Rules & Requirements
Requisites: Prerequisite, MATH 661.
Grading Status: Letter grade.
Same as: COMP 662, ENVR 662.

MATH 668. Methods of Applied Mathematics I. 3 Credits.
Requires an undergraduate course in differential equations. Contour integration, asymptotic expansions, steepest descent/stationary phase methods, special functions arising in physical applications, elliptic and theta functions, elementary bifurcation theory.

Rules & Requirements
Grading Status: Letter grade.
Same as: ENVR 668.

MATH 669. Methods of Applied Mathematics II. 3 Credits.
Perturbation methods for ODEs and PDEs, WKBJ method, averaging and modulation theory for linear and nonlinear wave equations, long-time asymptotics of Fourier integral representations of PDEs, Green's functions, dynamical systems tools.

Rules & Requirements
Requisites: Prerequisite, MATH 668.
Grading Status: Letter grade.
Same as: ENVR 669.

MATH 676. Modules, Linear Algebra, and Groups. 3 Credits.
Requires knowledge of linear algebra and algebraic structures. Modules over rings, canonical forms for linear operators and bilinear forms, multilinear algebra, groups and group actions.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

MATH 677. Groups, Representations, and Fields. 3 Credits.
Internal structure of groups, Sylow theorems, generators and relations, group representations, fields, Galois theory, category theory.

Rules & Requirements
Requisites: Prerequisite, MATH 676.
Grading Status: Letter grade.

MATH 680. Differentiable Manifolds. 3 Credits.
Calculus on manifolds, vector bundles, vector fields and differential equations, de Rham cohomology.

Rules & Requirements
Requisites: Prerequisite, MATH 681.
Grading Status: Letter grade.

MATH 681. Introductory Topology. 3 Credits.
Topology. Point set topology, metric spaces, connectedness, compactness. Classification of surfaces. Homotopy theory, the fundamental group, covering spaces, Brouwer fixed-point theorem. Simplicial homology, homology groups.

Rules & Requirements
Grading Status: Letter grade.

MATH 690. Topics In Mathematics. 3 Credits.
Permission of the department. Directed study of an advanced topic in mathematics. Topics will vary.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

MATH 691H. Honors Research in Mathematics. 3 Credits.
Permission of the director of undergraduate studies. Readings in mathematics and the beginning of directed research on an honors thesis.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

MATH 692H. Honors Thesis in Mathematics. 3 Credits.
Permission of the director of undergraduate studies. Completion of an honors thesis under the direction of a member of the faculty. Required of all candidates for graduation with honors in mathematics.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

Graduate-level Courses

MATH 751. Introduction to Partial Differential Equations. 3 Credits.
Basic methods in partial differential equations. Topics may include: Cauchy-Kowalewski Theorem, Holmgren's Uniqueness Theorem, Laplace's equation, Maximum Principle, Dirichlet problem, harmonic functions, wave equation, heat equation.

Rules & Requirements
Requisites: Prerequisite, MATH 653.
Grading Status: Letter grade.

MATH 753. Measure and Integration. 3 Credits.
Lebesgue and abstract measure and integration, convergence theorems, differentiation, Radon-Nikodym theorem, product measures, Fubini theorem, Lebesgue spaces, invariance under transformations, Haar measure and convolution.

Rules & Requirements
Requisites: Prerequisite, MATH 653; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

MATH 754. Introductory Functional Analysis. 3 Credits.
Hahn-Banach and separation theorems. Normed and locally convex spaces, duals of spaces and maps, weak topologies; closed graph and open mapping theorems, uniform boundedness theorem, linear operators. Spring.

Rules & Requirements
Requisites: Prerequisite, MATH 753.
Grading Status: Letter grade.

MATH 755. Advanced Complex Analysis. 3 Credits.
Laurent series; Mittag-Leffler and Weierstrass Theorems; Riemann mapping theorem; Runge's theorem; additional topics chosen from: harmonic, elliptic, univalent, entire, meromorphic functions; Dirichlet problem; Riemann surfaces.

Rules & Requirements
Requisites: Prerequisite, MATH 656.
Grading Status: Letter grade.

MATH 756. Several Complex Variables. 3 Credits.
Elementary theory, the Cousin problems, domains of holomorphy, Runge domains and polynomial approximation, local theory, complex analytic structures, coherent analytic sheaves and Stein manifolds, Cartan's theorems.

Rules & Requirements
Requisites: Prerequisite, MATH 656.
Grading Status: Letter grade.

MATH 761. Numerical ODE/PDE, I. 3 Credits.
Single, multistep methods for ODEs: stability regions, the root condition; stiff systems, backward difference formulas; two-point BVPs; stability theory; finite difference methods for linear advection diffusion equations.

Rules & Requirements
Requisites: Prerequisites, MATH 661 and 662.
Grading Status: Letter grade.
Same as: ENVR 761, MASC 781.

MATH 762. Numerical ODE/PDE, II. 3 Credits.
Elliptic equation methods (finite differences, elements, integral equations); hyperbolic conservation law methods (Lax-Fiedrich, characteristics, entropy condition, shock tracking/capturing); spectral, pseudo-spectral methods; particle methods, fast summation, fast multipole/vortex methods.

Rules & Requirements
Requisites: Prerequisite, MATH 761.
Grading Status: Letter grade.
Same as: ENVR 762, EMES 782.

MATH 768. Mathematical Modeling I. 3 Credits.
Nondimensionalization and identification of leading order physical effects with respect to relevant scales and phenomena; derivation of classical models of fluid mechanics (lubrication, slender filament, thin films, Stokes flow); derivation of weakly nonlinear envelope equations. Fall.

Rules & Requirements
Requisites: Prerequisites, MATH 661, 662, 668, and 669.
Grading Status: Letter grade.
Same as: ENVR 763, MASC 783.

MATH 769. Mathematical Modeling II. 3 Credits.
Current models in science and technology: topics ranging from material science applications (e.g., flow of polymers and LCPs); geophysical applications (e.g., ocean circulation, quasi-geostrophic models, atmospheric vortices).

Rules & Requirements
Requisites: Prerequisites, MATH 661, 662, 668, and 669.
Grading Status: Letter grade.
Same as: ENVR 764, EMES 784.

MATH 771. Commutative Algebra. 3 Credits.
Field extensions, integral ring extensions, Nullstellensatz and normalization theorem, derivations and separability, local rings, valuations, completions, filtrations and graded rings, dimension theory.

Rules & Requirements
Requisites: Prerequisite, MATH 677.
Grading Status: Letter grade.

MATH 773. Lie Groups. 3 Credits.
Lie groups, closed subgroups, Lie algebra of a Lie group, exponential map, compact groups, Haar measure, orthogonality relations, Peter-Weyl theorem, maximal torus, representations, Weyl character formula, homogeneous spaces.

Rules & Requirements
Requisites: Prerequisites, MATH 676 and 781.
Grading Status: Letter grade.

MATH 774. Lie Algebras. 3 Credits.
Nilpotent, solvable, and semisimple Lie algebras, structure theorems, root systems, Weyl groups, weights, classification of semisimple Lie algebras and their finite dimensional representations, character formulas.

Rules & Requirements
Requisites: Prerequisite, MATH 676.
Grading Status: Letter grade.

MATH 775. Algebraic Geometry. 3 Credits.
Topics may include: algebraic varieties, algebraic functions, abelian varieties, projective and complete varieties, algebraic groups, schemes and the Grothendieck theory, Riemann-Roch theorem.

Rules & Requirements
Requisites: Prerequisite, MATH 771.
Grading Status: Letter grade.

MATH 776. Algebraic Topology. 3 Credits.
Homotopy and homology; simplicial complexes and singular homology; other topics may include cohomology, universal coefficient theorems, higher homotopy groups, fibre spaces.

Rules & Requirements
Requisites: Prerequisites, MATH 676 and 681.
Grading Status: Letter grade.

MATH 782. Differential Geometry. 3 Credits.
Riemannian geometry, first and second variation of area and applications, effect of curvature on homology and homotopy, Chern-Weil theory of characteristic classes, Chern-Gauss-Bonnet theorem.

Rules & Requirements
Requisites: Prerequisite, MATH 680.
Grading Status: Letter grade.

MATH 853. Harmonic Analysis. 3 Credits.
Permission of the instructor. Subjects may include topological groups, abstract harmonic analysis, Fourier analysis, noncommutative harmonic analysis and group representation, automorphic forms, and analytic number theory.

Rules & Requirements
Grading Status: Letter grade.

MATH 854. Advanced Functional Analysis. 3 Credits.
Permission of the instructor. Subjects may include operator theory on Hilbert space, operators on Banach spaces, locally convex spaces, vector measures, Banach algebras.

Rules & Requirements
Grading Status: Letter grade.

MATH 857. Theory of Dynamical Systems. 3 Credits.
Permission of the instructor. Topics may include: ergodic theory, topological dynamics, stability theory of differential equations, classical dynamical systems, differentiable dynamics.

Rules & Requirements
Grading Status: Letter grade.

MATH 891. Special Topics. 1-3 Credits.
Advance topics in current research in statistics and operations research.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.
Same as: GNET 891, BCB 891.

MATH 892. Topics in Computational Mathematics. 3 Credits.
Topics may include: finite element method; numerical methods for hyperbolic conservation laws, infinite dimensional optimization problems, variational inequalities, inverse problems.

Rules & Requirements
Requisites: Prerequisites, MATH 661 and 662.
Grading Status: Letter grade.

MATH 893. Topics in Algebra. 3 Credits.
Topics from the theory of rings, theory of bialgebras, homological algebra, algebraic number theory, categories and functions.

Rules & Requirements
Requisites: Prerequisite, MATH 677.
Grading Status: Letter grade.

MATH 894. Topics in Combinatorial Mathematics. 3 Credits.
Topics may include: combinatorial geometries, coloring and the critical problem, the bracket algebra, reduced incidence algebras and generating functions, binomial enumeration, designs, valuation module of a lattice, lattice theory.

Rules & Requirements
Requisites: Prerequisite, MATH 641; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

MATH 895. Special Topics in Geometry. 3 Credits.
Topics may include elliptic operators, complex manifolds, exterior differential systems, homogeneous spaces, integral geometry, submanifolds of Euclidean space, geometrical aspects of mathematical physics.

Rules & Requirements
Requisites: Prerequisite, MATH 781.
Grading Status: Letter grade.

MATH 896. Topics in Algebraic Topology. 3 Credits.
Topics primarily from algebraic or differential topology, such as cohomology operations, homotopy groups, fibre bundles, spectral sequences, K-theory, cobordism, Morse Theory, surgery, topology of singularities.

Rules & Requirements
Requisites: Prerequisite, MATH 776; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

MATH 920. Seminar and Directed Readings. 1-3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

MATH 921. Seminar. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.

MATH 925. Practical Training Course in Mathematics. 1-3 Credits.
Required preparation, passed Ph.D. or M.S. written comprehensive exam. An opportunity for the practical training of a graduate student interested in mathematics is identified. Typically this opportunity is expected to take the form of a summer internship.

Rules & Requirements
Requisites: Prerequisite, Successful completion of the written comprehensive examination degree requirement.
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

MATH 992. Master's (Non-Thesis). 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

MATH 993. Master's Research and Thesis. 3 Credits.
This should not be taken by students electing non-thesis master's projects.

Rules & Requirements
Repeat Rules: May be repeated for credit.

MATH 994. Doctoral Research and Dissertation. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

Contact Information

Department of Mathematics
Visit Program Website (http://www.math.unc.edu)

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HUSSMAN SCHOOL OF JOURNALISM AND MEDIA (GRAD)

The Hussman School of Journalism and Media offers programs leading to three graduate degrees:

- Doctor of philosophy in media and communication
- Master of arts in digital communication (online)
- Master of arts in media and communication, with distinct areas of study in:
  - Journalism
  - Strategic communication
  - Theory and research (with J.D.-M.A. dual-degree option)

The school also offers three graduate certificate programs, delivered online for working communications professionals:

- Digital communication strategy (p. 34)
- Digital media management (p. 34)
- Digital storytelling (p. 34)

In all the school's graduate offerings, students are taught to examine critically the role of media in society and are provided with a firm grounding in theory and analysis. By setting high standards for both scholarly and professional achievement, the school seeks to prepare graduates to be leaders and critical thinkers, no matter what career paths they might take.

Master of Arts in Media and Communication

The master's in media and communication, UNC Hussman's on-campus master's program, prepares students to be leaders and critical thinkers through training in skills, communication concepts, and research and analysis. With high standards for scholarly and professional achievement, the program serves individuals interested in entering media and communication professions, professional communicators who want more education in a specialized field, and individuals interested in communication research and teaching. Annual enrollment in the program totals about 45 students.

The program consists of three areas of study: journalism, strategic communication, and theory and research. Journalism students specialize in interactive design journalism, public life reporting, or video journalism. The journalism and strategic communication curricula are each designed to be completed in just one year, while the theory and research program of study can be finished in two academic years. A J.D.–M.A. dual-degree program, part of the theory and research area of study, offered in partnership with the UNC School of Law, allows students to earn both degrees in as little as four years.

Requirements

All residential master's students, regardless of area of study, must pass the school's word usage and grammar test. Curricular and thesis/capstone requirements vary by area of study, as outlined below.

Journalism Area of Study

The 2023–2024 academic year was the first for the new, one-year journalism program of study. The 30-credit curriculum allows aspiring and early-career journalists to — in just 12 months — intensively learn the specialized skills of their craft. Each journalism student pursues one of three specializations:

- **Interactive design journalism** focuses on developing interactive stories, producing content, and coding for dynamic web projects.
- **Public life reporting** focuses on the development of investigative reporting expertise, allowing students to produce stories about education, health care, housing, immigration, labor, law enforcement, and racial/ethnic discrimination, among other issues.
- **Video journalism** teaches students how to acquire audio, photo, and video content; structure stories; and produce short and long-form documentary films.

Students start with a bootcamp course, either fundamentals of reporting or fundamentals of video journalism, in summer session II to develop foundational skills. In the fall, all students take law, ethics, and contemporary issues, as well as journalism methods. The remaining two fall courses and four spring courses are a mix of specialization requirements and electives. Students produce much of the work for a culminating final project during their spring courses and finalize the project during the following summer session I, with guidance from a small panel of faculty members.

Up to two elective courses may be taken from related subject fields in other schools and departments of the University or at neighboring universities.

Strategic Communication Area of Study

The strategic communication area of study features a redesigned, one-year curriculum that prepares students for advertising, marketing communication, and public relations positions in agencies, corporations, nonprofit organizations, and government. Because the professional master's curricula should prepare students to be leaders in the 21st-century workplace, this area of study seeks a balance between critical thinking and technical communication skills.

Strategic communication master's students complete 33 total credit hours. They take four 3-credit courses and one 1.5-credit course in each of the fall and spring semesters. They then develop a final capstone project during summer I, before finalizing, submitting, and presenting the project in summer II. The summer I course meets virtually in the evenings, to allow time for students to complete daytime internships or practicum experiences. Of the eight fall and spring courses, five are specific required courses and three are electives. Up to two courses may be taken from related subject fields in other schools and departments of the University or at neighboring universities.

Theory and Research Area of Study

The theory and research area of study is designed for students who are interested in later pursuing a doctoral degree or research positions in industry. The curriculum for students in this area is closely tied to the Ph.D. program curriculum; students do not take professional skills courses.

Within this 39-credit-hour curriculum, each student completes a core set of classes and works with an advisor to build a specialized program of study based on this foundation. Core courses include mass communication theory, research methods, and media law. Students

also are required to take at least two courses in other schools and departments at the University or at neighboring universities. A research thesis also is required of each theory and research master's student.

J.D.–M.A. Dual Degree

The J.D.–M.A. dual-degree program is designed for students interested in pursuing graduate studies in law and media and communication, and who plan to practice media or intellectual property law, pursue academic careers in law and mass communication fields, pursue doctoral study in a related field, or pursue careers in journalism or strategic communication with a law-related emphasis.

Admitted students typically complete the required first-year law school curriculum during the first year of study. The M.A. portion of the program requires 39 course credit hours and typically follows the theory and research program of study curriculum described above. In the dual-degree program, a student may count up to 12 credit hours of LAW courses toward the M.A. and up to 12 credit hours of MEJO courses toward the J.D. That accounts for the 24 course credit hours that are "shared." That means that the dual degree requires a total of 101 unique course credit hours, and 27 of those course credit hours are MEJO course credit hours.

All degree requirements from both schools must be completed before the degrees are awarded, and dual-degree students must apply for concurrent graduation for both degrees the same semester. Students who do not maintain dual-degree status may need to take additional coursework if they pursue either degree separately after being admitted to the dual-degree program.

Master of Arts in Digital Communication (Online)

The master's in digital communication empowers working professionals to advance their careers and bring immediate impact to their organizations. Students explore the economic drivers and technological changes affecting media and communication. Through a rigorous, project-based curriculum, students learn to find trends, patterns, and stories in data and communicate insights that will drive impactful decision-making. Students collaborate closely with faculty and peer professionals, learning to develop effective content creation and dissemination strategies across platforms, deliver unforgettable user experiences, and lead with strategic and entrepreneurial thinking.

Students who entered the program in 2024 or earlier complete the program in 2.5 years. During the first year, students enroll in two courses in the fall, two courses in the spring, and one course in the summer. In the second year, students enroll in two courses in the fall and two courses in the spring. Students enroll in a nontraditional thesis course in the third fall semester, completing a thesis project under the guidance of a faculty chair and three-person committee.

Starting with the 2025 entering cohort, students complete the program in two years, taking two courses per fall and spring semester and one course in each summer term. Courses follow the University's alternate, 14-week calendar and are taught mostly asynchronously, which means students are not required to gather online for class at specific times every week. Some courses do feature occasional synchronous sessions that are recorded for students to watch at another time if they are unable to attend in real time. Students also are required to attend an on-campus immersion and present their capstone projects at a showcase event at the end of the program.

The M.A.D.C. program admits one group of no more than 20 students each fall, keeping classes intentionally small with an emphasis on interaction between faculty and students. Each entering cohort progresses through the program together over two years.

Requirements

The final new courses of a revised curriculum were added in 2022–2023. The 30-credit-hour program consists of the following nine courses, followed by a capstone course:

Code	Title	Hours
MEJO 710	Psychology of Audiences	3
MEJO 711	Multi-platform Storytelling	3
MEJO 713	Media Analytics	3
MEJO 719	Leadership and Entrepreneurship	3
MEJO 720	Communication Strategy and Planning	3
MEJO 722	The Business of Media	3
MEJO 723	Visual Literacy and User Experience	3
MEJO 724	Reputation Management	3
MEJO 725	Media Innovation in Practice	3

Online Graduate Certificates

Admitted online master's students can transfer credit for up to three certificate courses toward the degree program. This allows students to try out online learning before committing to a full degree program and lighten their course loads for part of their time in the master's program. Certificate students and graduates are not automatically admitted to the master's program. They complete the same application as other applicants but may seek recommendation letters from certificate instructors and highlight in application materials their successes in the certificate program.

The curriculum for each certificate consists of three courses from the digital communication master's curriculum, focused in a particular area. The certificate areas are:

- Digital communication strategy (p. 34)
- Digital media management (p. 34)
- Digital storytelling (p. 34)

Ph.D. in Media and Communication

The doctorate in media and communication prepares students to excel in college teaching and research positions or research careers in communication industries. Advancing the body of knowledge through theory building and testing, faculty work closely with each student to develop a program of study that is both interdisciplinary and tailored to meet the specific needs and interests of the student. The goal of the program is to produce outstanding scholars, effective educators, and highly skilled researchers.

The program is small and selective; no more than five to nine students enter the program each year. Admissions decisions are based not only on standard criteria but also on a determination of whether the applicant's interests and goals fit with those of the program and faculty. For that reason, the statement of purpose that must accompany an application is

extremely important, and applicants are encouraged to be as specific as possible in outlining their research interests and career goals.

Requirements

The doctoral program is designed to be flexible and interdisciplinary, but also to ensure that students are equipped to conduct rigorous research and teach or practice in at least one substantive area. The required 48 credits consist of the three core courses listed below, plus 33 credits from additional courses and 6 hours or more of dissertation work. Students typically complete 10.5 credits (three 3-credit courses, plus MEJO 801 for 1.5 credits) each semester of their first year. They take 3-4 courses per semester in the second year. They then spend the remaining year or more enrolled in 3 credits per semester, focusing on completion of comprehensive exams and then the dissertation.

Code	Title	Hours
MEJO 703	Mass Communication Research Methods	3
MEJO 705	Theories of Mass Communication	3
MEJO 801	Professional Seminar in Doctoral Studies	1.5

The remaining required credit hours must be arrayed into three groups of courses: 1) a substantive area of study consisting of at least 12 hours of coursework; 2) research methods consisting of at least 12 hours; and 3) at least 6 hours of coursework for the development of a secondary area of expertise or exploration of other substantive or methodological areas of the academy. Substantive areas include:

- Media processes and production
- Legal and regulatory issues in communication
- Media uses and effects
- Health communication
- Political, social, and strategic communication

Other requirements include:

- At least eight courses, totaling at least 24 credits, of 700-, 800-, and 900-level courses within the Hussman School of Journalism and Media
- At least four semesters in residence, with a minimum of two semesters in continuous study at UNC–Chapel Hill
- Satisfactory performance on both written and oral comprehensive exams, taken at the end of the Ph.D. coursework
- Successful completion and oral defense of a dissertation

Length of the Ph.D. Program

The Ph.D. program can be completed in three years, but funding packages include four years of support. Many students elect to stay a fourth year to compete more effectively for research-intensive positions at Research 1 universities or to pursue more ambitious dissertations. The Graduate School requires students to complete the degree within eight years of first registration in the doctoral program.

J.D.–Ph.D. Dual-Degree Program

The J.D.–Ph.D. dual-degree program is designed for students interested in pursuing graduate studies in law and media and communication and who plan to practice media or intellectual property law, pursue academic careers in law and mass communication fields, or pursue careers in journalism or strategic communication with a law-related emphasis.

Admission to the UNC School of Law and the doctoral program in the Hussman School of Journalism and Media must be gained independently in order to be admitted to the J.D.–Ph.D. program. Admitted students typically complete the required first-year law school curriculum during the first year of study.

Dual-degree students must complete the required 48 credit hours for the Ph.D., of which up to 12 credit hours may be drawn from approved courses in the J.D. curriculum. Dual-degree students also must complete the required 86 credit hours for the J.D. degree, of which up to 12 hours may be drawn from approved courses in the Ph.D. curriculum. This allows J.D.–Ph.D. students to complete the dual-degree program with 110 credit hours over approximately five years, depending on the individual student's progress and program of study.

All degree requirements from both schools must be completed before the degrees are awarded, and dual-degree students must apply for concurrent graduation for both degrees the same semester. Students who do not maintain dual-degree status may need to take additional coursework if they pursue either degree separately after being admitted to the dual-degree program.

Funding

Funding packages support students' study over four academic years. They provide students flexibility and breadth of experience by combining three years of school-based fellowship or scholarship funding with one year fulfilling a teaching assistantship, working on a faculty grant, or benefitting from other university funding. The school regularly offers the following fellowships and scholarships:

- Roy H. Park Fellowships
- Orville Gray and Lucille M. Cobbs Memorial Scholarship
- William G. Arey, Jr. Fellowship

While on fellowship funding, each student works as a graduate assistant 15 hours per week for each semester while receiving funding, serving as a research assistant for four semesters and as an instructor of record for two semesters. This balance allows students to develop both their research record and the teaching experience necessary to be competitive on the job market. Each of the above packages provides an annual stipend, payment of tuition and fees, travel support, and health insurance. While only U.S. citizens are eligible for Park Fellowships, the Cobbs Fellowship and Arey Scholarship can fund international or domestic students.

Ph.D. students are also sometimes funded by external grants supporting UNC Hussman faculty research projects.

Professors

Francesca Dillman Carpentier, W. Horace Carter Distinguished Professor; Media Uses and Effects, Health Communication
Nori Comello, Media Uses and Effects; Health Communication; Political, Social and Strategic Communication
Patrick Davison, Journalism
Victoria Smith Ekstrand, Legal and Regulatory Issues in Communication
Rhonda Gibson, James H. Shumaker Term Professor; Media Uses and Effects, Journalism
Kristen Harrison, Richard Cole Eminent Professor; Media Uses and Effects, Health Communication
Daniel Kreiss, Edgar Thomas Cato Distinguished Professor; Media Processes and Production; Political, Social and Strategic Communication
Suman Lee, Media Processes and Production; Strategic Communication

Seth Noar, James Howard and Hallie McLean Parker Distinguished Professor; Media Uses and Effects, Health Communication
Terence Oliver, Walter Spearman Distinguished Professor; Visual Communication
Marisa Porto, John S. and James L. Knight Chair in Local News and Sustainability; Journalism
Raul Reis, John T. Kerr Distinguished Professor, Dean
C.A. Tuggle, John H. Stembler Jr. Distinguished Professor; Media Processes and Production, Journalism

Associate Professors

Debashis Aikat, Media Processes and Production; Political, Social and Strategic Communication; Journalism
Shaun Anderson, John S. and James L. Knight Chair in Sports, Race and Media; Strategic Communication
Lucinda Austin, Media Uses and Effects; Health Communication; Political, Social and Strategic Communication
Spencer Barnes, Media Uses and Effects, Visual Communication, Health Communication
Andy Bechtel, Journalism
Lois Boynton, Media Processes and Production; Political, Social and Strategic Communication
Meredith Clark, Journalism; Political, Social and Strategic Communication
Paul Cuadros, Journalism
Lightning Czabovsky, Media Processes and Production; Political, Social and Strategic Communication
Livis Freeman, Strategic Communication
Barbara Friedman, Media Processes and Production; Political, Social and Strategic Communication; Journalism
Chad Heartwood, Journalism
Joe Bob Hester, Media Uses and Effects; Political, Social and Strategic Communication
Steven King, Journalism
Allison Lazard, Media Uses and Effects, Health Communication, Strategic Communication
Trevy McDonald, Media Processes and Production; Political, Social and Strategic Communication; Journalism
Shannon McGregor, Media Processes and Production; Media Uses and Effects; Political, Social and Strategic Communication
Amanda Reid, Legal and Regulatory Issues in Communication
Laura Ruel, Journalism
Ryan Thornburg, Journalism

Assistant Professors

Shelvia Dancy, Journalism
Lee McGuigan, Political, Social and Strategic Communication
Erin Siegal McIntyre, Journalism
Xinyan (Eva) Zhao, Political, Social and Strategic Communication

Professors of the Practice

Esther Campi, Strategic Communication
Jules Dixon-Green, Strategic Communication
Rebecca Fish, Strategic Communication
Michelle LaRoche, Hussman Professor of Business Journalism; Journalism
Dana McMahan, Professor of the Practice of Advertising; Strategic Communication

Teaching Professor

Valerie Fields, Strategic Communication

Teaching Associate Professor

Gary Kayye, Strategic Communication

Teaching Assistant Professors

Scott Geier, Journalism
Carl William Kenney, Journalism
Nazanin Knudsen, Journalism

MEJO

Advanced Undergraduate and Graduate-level Courses

MEJO 421. Television News Reporting and Producing. 3 Credits.
Permission of the instructor. This course covers writing, reporting, and producing television news stories and programs, with emphasis on basic as well as innovative broadcast story forms.

Rules & Requirements
Requisites: Prerequisites, MEJO 121 and 252.
Grading Status: Letter grade.

MEJO 424. Media Management and Policy. 3 Credits.
An introduction to media management, generally, and the supervision and motivation of employees, specifically. The course also delves into policy and legal issues impacting modern media operations. It explores the special skills associated with management of media properties in the context of constant change.

Rules & Requirements
Grading Status: Letter grade.

MEJO 425. Voice and Diction. 3 Credits.
Designed to help students develop presentation skills and use voices effectively as professional broadcast journalists.

Rules & Requirements
Grading Status: Letter grade.

MEJO 426. Audio Journalism for Radio and Podcasts. 3 Credits.
A practicum class in which students work under faculty guidance to produce news stories, features, interviews, sports, and other audio content. Student work is broadcast on "Carolina Connection" -- a weekly radio program -- and is distributed on iTunes and other digital platforms. Students also have the opportunity to produce their own podcasts in the Carroll Hall studios.

Rules & Requirements
Requisites: Prerequisite, MEJO 252.
Grading Status: Letter grade.

MEJO 430. Personal Finance. 3 Credits.
Learn the concepts of personal finance including mortgages, credit card management, checking accounts, credit ratings and scores, privacy, retirement planning, and stock market investing to help you successfully navigate your finances after graduation. We will explore the concepts of personal finance and also at looking behind the numbers to spot how the consumer might be taken advantage of financially by banking and other institutions.

Rules & Requirements
Grading Status: Letter grade.

MEJO 432. Cause Communications. 3 Credits.
This course provides a comprehensive understanding of the role of public relations in the nonprofit realm and a service-learning experience. Students will be introduced to the essential skills and core responsibilities of practicing public relations for the public good. Lectures, case studies, and discussions will be integrated with service-learning experiences in which students apply course concepts to address real concerns and issues of community partners.

Rules & Requirements
Grading Status: Letter grade.

MEJO 433. UX Strategy and Design. 3 Credits.
Required preparation, a prior or concurrent visual design course, internship, or work experience demonstrating basic graphic design skills. Immersion in experience design (XD) for products and services with a focus on digital user experience (UX), interface design (UI), analytics and marketing strategies. Students use design thinking, research, data, testing, business models, social media, and optimal conversion to engage diverse audiences. Previously offered as MEJO 336.

Rules & Requirements
Grading Status: Letter grade.

MEJO 435. Public Information Strategies. 3 Credits.
This course provides a comprehensive assessment and understanding of the role of public relations professionals throughout government and the nonprofit sector as well. The course examines the unique requirements placed on communicators who are simultaneously responsible for representing their respective organizations while keeping the public informed.

Rules & Requirements
Requisites: Prerequisite, MEJO 137.
Grading Status: Letter grade.

MEJO 437. Media in Asia. 3 Credits.
The study of media in Asia, including how news and information are disseminated and used by audiences. Includes a trip to the region as part of the course. Honors version available.

Rules & Requirements
Requisites: Prerequisite, MEJO 137 or 153.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

MEJO 438. Advertising in the Age of Alexa. 3 Credits.
An exploration of established advertising and brand theory and their evolving best practices in response to decades of continuous digital disruption. Through selected readings, engaging discussion, student research, and live interface with some of today's most enlightened, real-world practitioners, we'll investigate how content on powerful platforms shapes both attitudes and behavior, how marketing communications methods have been challenged and discarded, and why fundamental objectives in creating brand-based relationships remain remarkably constant.

Rules & Requirements
Grading Status: Letter grade.

MEJO 439. Producing for Advertising. 3 Credits.
This class is designed to enhance your understanding and appreciation for the producers' role in the advertising process. Students will be introduced to terminology, roles, shooting fundamentals, and interpreting the written word as they explore the three stages of filmmaking: preproduction, production, and post-production. Students will also learn what goes into bidding, scheduling, and delivering a completed campaign while also delving into client interfacing, legal, and union/nonunion rules.

Rules & Requirements
Grading Status: Letter grade.

MEJO 440. Digital Media Law and Society. 3 Credits.
Explains legal issues raised by Internet communication and guides students in thinking critically about how those issues can be resolved. Reviews how courts, other branches of government, the private sector, and legal scholars have responded to the Internet. Topics may include digital copyright, net neutrality, privacy, and Internet censorship abroad.

Rules & Requirements
Requisites: Prerequisite, MEJO 340.
Grading Status: Letter grade.

MEJO 441. Diversity and Communication. 3 Credits.
An examination of racial stereotypes and minority portrayals in United States culture and communication. Emphasis is on the portrayal of Native Americans, African Americans, Hispanics, and Asian Americans in the mass media.

Rules & Requirements
Grading Status: Letter grade.

MEJO 442. Gender, Class, Race, and Mass Media. 3 Credits.
The media play a critical role in the construction and contestation of ideas about gender, class, and race. Using a range of methods, students will analyze media messages past and present to understand how gender, race, and class influence media production and consumption.

Rules & Requirements
Grading Status: Letter grade.
Same as: WGST 442.

MEJO 443. Latino Media Studies. 3 Credits.
An introductory course to the study of United States Latina/os and the media. It analyzes the media portrayal of Latina/os in United States mainstream media. The course also examines media that cater to Latina/os and explores the way in which Latina/o audiences use the multiple media offerings available to them.

Rules & Requirements
Grading Status: Letter grade.

MEJO 445. Media Effects on Audiences. 3 Credits.
Study of the creation and effects of media, drawing from literature in journalism, psychology, sociology, political science, and history. Topics range from news to entertainment to advertising to social media and more. Students learn about message construction, dissemination, and audience reception.

Rules & Requirements
Grading Status: Letter grade.

MEJO 446. Global Communication and Comparative Journalism. 3 Credits.
Covers theories explaining the workings of global and local communication systems, the transnational flow of news, and opportunities and challenges that social media and other new platforms pose to the production and distribution of news. It also familiarizes students with the media communication systems of key countries.

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL.
Grading Status: Letter grade.

MEJO 447. Media in the United Kingdom. 3 Credits.
The study of media in the UK including how news and information are disseminated and used by audiences. Includes a trip to the country as part of the course. Honors version available.

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL.
Requisites: Prerequisite, MEJO 137 or 153.
Grading Status: Letter grade.

MEJO 448. Freedom of Expression in the United States. 3 Credits.
An examination of the development of freedom of expression in the United States within the context of the nation's history.

Rules & Requirements
Grading Status: Letter grade.

MEJO 449. Blogging, Smart Mobs, and We the Media. 3 Credits.
For advanced undergraduates through Ph.D. students. Practical and theoretical approaches to understanding, designing, building, and using virtual communities, including studies of network capital, social capital, and social production.

Rules & Requirements
Grading Status: Letter grade.

MEJO 454. Advanced Feature Writing. 3 Credits.
Writing and reporting important topics in in-depth feature articles. Discussion and utilization of writing and reporting techniques in order to complete articles for publication or other dissemination. In-depth instruction and critiques of student work.

Rules & Requirements
Requisites: Prerequisites, MEJO 153 and 356.
Grading Status: Letter grade.

MEJO 455. Creative Sportswriting. 3 Credits.
Researching and writing sports stories, including game coverage, magazine features, and opinion columns. Students complete reporting and writing exercises inside and outside of the classroom.

Rules & Requirements
Grading Status: Letter grade.

MEJO 458. Southern Politics: Critical Thinking and Writing. 3 Credits.
Interpretive-contextual journalism focused on the trends, issues, and politics that influence democracy in North Carolina, the American South, and the nation. Through readings and the practice of analytical journalism, the course explores government policy making, election campaigns, social and economic trends, ethics, and citizen-leader relationships.

Rules & Requirements
Grading Status: Letter grade.

MEJO 459. Community Journalism. 3 Credits.
Comprehensive study of the community press, including policies, procedures, and issues surrounding the production of smaller newspapers within the context of the community in its social and civic setting.

Rules & Requirements

IDEAs in Action Gen Ed: HI-SERVICE.
Requisites: Prerequisite, MEJO 153.
Grading Status: Letter grade.

MEJO 463. News Lab: Creating Tomorrow's News Products. 3 Credits.
Students work under faculty guidance to develop and test an idea for a start-up news product. Students will create a prototype, test it on a target market, and compile a business feasibility report for the product. The course emphasizes collaboration among students with a variety of skills and experiences.

Rules & Requirements
Grading Status: Letter grade.

MEJO 466. Sports Marketing and Strategic Communication. 3 Credits.
Examines the range of promotional techniques being used in the modern sports industry. Topics include sponsorships, strategic communication, merchandising, and the effects of commercialization. Previously offered as MEJO 376.

Rules & Requirements
Grading Status: Letter grade.

MEJO 467. Business Concepts for Communications. 3 Credits.
In this course, students will gain a fundamental understanding of business and learn how to write about it. Students will explore how various aspects of business, finance and corporate leadership relate to individuals, communities, companies, governments and world events, and they will learn how to write about that impact clearly and concisely.

Rules & Requirements
Grading Status: Letter grade.

MEJO 469. Health Communication and Marketing. 3 Credits.
Forbes magazine projects a crest of increasing employment in healthcare over the next decade. This means the strategic communication skill set is in high demand by hospitals, pharmaceutical companies, healthcare advertising or PR agencies, insurance companies, non-profit organizations, and more. In this course, students will learn about the healthcare sector, explore the patient journey, map stakeholders and influencers, and get hands-on experience with marketing and communications that can help people lead healthier lives.

Rules & Requirements
Grading Status: Letter grade.

MEJO 471. Advanced Advertising Copywriting. 3 Credits.
Rigorous, in-depth instruction and critiques of student advertising writing. Permission of the instructor.

Rules & Requirements
Grading Status: Letter grade.

MEJO 475. Concepts of Marketing. 3 Credits.
Designed to provide the larger business context for students anticipating careers in advertising, public relations, and other media industries, the course teaches the vocabulary and basic concepts of marketing as it will be practiced.

Rules & Requirements
Grading Status: Letter grade.

MEJO 476. Ethical Issues and Sports Communication. 3 Credits.
Permission of the instructor. Ethical dilemmas and decisions in the commercialization and coverage of sports, including the influence of television, pressure to change traditions and standards for monetary reasons, and negative influences on athletes.

Rules & Requirements
Grading Status: Letter grade.

MEJO 477. New Media Technologies: Their Impact on the Future of Advertising, Marketing, and Public Relations. 3 Credits.
This course will introduce you to the nontraditional, future vision required to be successful in advertising, marketing, and public relations and the more personal, individualized technologies that will grab people's attention in the future.

Rules & Requirements
Grading Status: Letter grade.

MEJO 478. Media Marketing. 3 Credits.
Principles and practices of retail advertising in all media, with emphasis on selling, writing, and layout of retail advertising for the print media.

Rules & Requirements
Requisites: Prerequisite, MEJO 137.
Grading Status: Letter grade.

MEJO 479. Market Intelligence. 3 Credits.
Permission of the instructor. This course helps students learn to make better business decisions by teaching contemporary analytical tools to solve brand and advertising problems. Honors version available.

Rules & Requirements
IDEAs in Action Gen Ed: FC-QUANT.
Grading Status: Letter grade.

MEJO 482. Media Design. 3 Credits.
Detailed study of page layout and graphics techniques for all forms of news media. Permission of the instructor.

Rules & Requirements
Requisites: Prerequisite, MEJO 182.
Grading Status: Letter grade.

MEJO 484. Information Graphics. 3 Credits.
Study and application of graphic design and information-gathering techniques to creating charts, maps, and diagrams.

Rules & Requirements
Requisites: Prerequisite, MEJO 182; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

MEJO 485. Publication Design. 3 Credits.
Detailed study and application of graphic design techniques in magazines, newspapers, advertising, and corporate communication.

Rules & Requirements
Requisites: Prerequisite, MEJO 182; pre- or co-requisite, MEJO 153; permission of the instructor.
Grading Status: Letter grade.

MEJO 487. Intermediate Interactive Media. 3 Credits.
Web programming, graphic design, and storytelling for the Web. Students will use HTML5 CSS3, JavaScript, and other Web publishing languages while learning how to design, storyboard, and script an interactive storytelling project. Students will collect and incorporate photos, text, video, graphics, and database information into interactive multimedia presentations. Previously offered as MEJO 586.

Rules & Requirements
Requisites: Prerequisite, MEJO 187.
Grading Status: Letter grade.

MEJO 488. Multimedia Storytelling: Carolina Photojournalism Workshop. 3 Credits.
The Carolina Photojournalism Workshop has a dual mission: to provide an immersive, real-world learning experience for students, and to create and publish exceptional multimedia content on the culture of North Carolina that can be a resource for people in our state and the world. Previously offered as MEJO 587.

Rules & Requirements
Grading Status: Letter grade.

MEJO 489. Photojournalism, Lighting, and Business Techniques. 3 Credits.
Students expand their personal photographic vision and professional portfolio by honing their knowledge and skills of studio and location lighting, propping, and styling. Students learn studio and location portraiture and photo illustration and create a photo essay or portrait series. Previously offered as MEJO 181.

Rules & Requirements
Requisites: Prerequisite, MEJO 180.
Grading Status: Letter grade.

MEJO 490. Special Topics in Mass Communication. 1-3 Credits.
Small classes on various aspects of journalism-mass communication with subjects and instructors varying each semester. Descriptions for each section available on the school's Web site under Course Details. Honors version available.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 9 total credits. 3 total completions.
Grading Status: Letter grade.

MEJO 500. Freelance Fundamentals. 3 Credits.
Students gain an understanding of the fundamentals of freelancing in the media and journalism industry. The course will utilize online learning tools to offer an introduction to skills and concepts necessary to manage a creative communication production business. MEJO undergraduate and graduate student initially. Open to other majors once courses open to campus wide.

Rules & Requirements
Grading Status: Letter grade.

MEJO 522. Producing Television News. 3 Credits.
Permission of the instructor. Students work under faculty guidance to produce "Carolina Week," a television news program, and are responsible for all production tasks such as producing, reporting, anchoring, directing, and others. Previously offered as MEJO 422.

Rules & Requirements
Requisites: Prerequisite, MEJO 421.
Grading Status: Letter grade.

MEJO 523. Broadcast News and Production Management. 3 Credits.
Students participate in a collaborative learning environment to hone skills learned in earlier courses and help less-experienced students acclimate to the broadcast news experience within the school. By invitation only. Previously offered as MEJO 423. Permission of the instructor. Honors version available.

Rules & Requirements
Grading Status: Letter grade.

MEJO 530. Green Brand Lab. 3 Credits.
Development and design of creative strategies for green products and good services. Students innovate environmentally sustainable products, services, and processes that lead to brand loyalty and positive impact. Triple bottom line: social, ecological and financial strategies, brand development, advocacy communications, research, data, and storytelling come together to make the world a better place. Course previously offered as MEJO 335.

Rules & Requirements
Grading Status: Letter grade.

MEJO 531. Case Studies in Public Relations. 3 Credits.
Helps students think as public relations professionals who deal with the demanding, dynamic environment of corporate, government, and nonprofit public relations. Students examine real-world situations and strategies, discussing factors that affect how public relations is practiced in organizations, including identifying stakeholder groups, developing strategies, embracing diversity, and recognizing ethical issues. Previously offered as MEJO 431.

Rules & Requirements
Requisites: Prerequisite, MEJO 137.
Grading Status: Letter grade.

MEJO 532. International Public Relations. 3 Credits.
This course aims to introduce students to the global and international perspectives of public relations. Corporations, governments, and non-government organizations (NGOs) actively seek to build and maintain mutually beneficial relationships with the public in other countries beyond their national boundaries. Public relations agencies serve foreign clients facing a variety of issues and challenges on a global scale. Key literature on international public relations, public diplomacy, global reputation management, and international media relations will be covered.

Rules & Requirements
Grading Status: Letter grade.

MEJO 533. Crisis Communication. 3 Credits.
Provides an assessment and understanding of crises, examining the role public relations professionals play in helping organizations use mass communication theories and best practices. Includes media training. Introduces students to areas of crisis research, allowing them to complete the Federal Emergency Management Agency's National Incident Management System certification. Previously offered as MEJO 433.

Rules & Requirements
Requisites: Prerequisite, MEJO 137.
Grading Status: Letter grade.

MEJO 541. Reporting & Writing About the Economy. 3 Credits.
This course is designed to build on your basic knowledge of various aspects of the economy and give you the tools and skills you need to synthesize sometimes complex information, understand how people are impacted by this information, and communicate both the information and the impact clearly and accurately to an audience. Previously offered as MEJO 451.

Rules & Requirements
Grading Status: Letter grade.

MEJO 542. Reporting & Writing About Business. 3 Credits.
Methods and tactics of covering businesses for mass communication. Why and how companies operate and how to write stories about corporate news from public records and other sources. Previously offered as MEJO 452.

Rules & Requirements
Requisites: Prerequisite, MEJO 467.
Grading Status: Letter grade.

MEJO 544. Career Exploration and Preparation. 3 Credits.
This course will provide detailed information about all communications careers, help you discover which careers best suit you, make sure your brand matches your career choice, help you maximize mentor relationships while becoming more effective networkers, and help you better understand all available job search resources. This will essentially be the final step in making sure you look and sound impressive while your portfolios maximize the magnitude of your experience.

Rules & Requirements
Grading Status: Letter grade.

MEJO 550. Business and the Media. 3 Credits.
Role of media in United States society and effects on public perceptions of business. Relationship of business press and corporate America. Current issues in business journalism. Previously offered as MEJO 450.

Rules & Requirements
Grading Status: Letter grade.

MEJO 553. Advanced Reporting. 3 Credits.
Rigorous, in-depth instruction and critiques of students' news and feature assignments done with different investigative reporting methodologies: interviewing, official records, public records.

Rules & Requirements
Requisites: Prerequisites, MEJO 153 and 253.
Grading Status: Letter grade.

MEJO 557. News Editing. 3 Credits.
Concentration on the editing of news, including writing of headlines, captions and posts for social media. Students may not receive credit for both MEJO 157 and MEJO 557.

Rules & Requirements
Requisites: Prerequisite, MEJO 153.
Grading Status: Letter grade.

MEJO 560. Environmental and Science Journalism. 3 Credits.
Prepare students to work as environmental and science journalists. The course emphasizes writing skills in all delivery formats and interpreting environmental, science, and medical information for consumers. Previously offered as HBEH 660/HBEH 660H/HPM 550/HPM 550H. Honors version available.

Rules & Requirements
Grading Status: Letter grade.

MEJO 561. Environmental and Science Video Storytelling. 3 Credits.
Students work in teams to produce, shoot, script, and report environmental, science, and medical stories for broadcast on "Carolina Week", the award-winning, student-produced television newscast.

Rules & Requirements
Grading Status: Letter grade.

MEJO 562. Environmental and Science Documentary Television. 3 Credits.
Students work in teams to conceive, produce, and script mini-documentaries on environmental and science topics for broadcast on North Carolina Public Television.

Rules & Requirements
Grading Status: Letter grade.

MEJO 564. Medical and Science Reporting. 3 Credits.
Required preparation, a second reporting or writing course. Focuses on developing strategies to research and write about medical issues, specifically selecting topics, finding and evaluating sources, and information gathering. Students produce a range of stories, from short consumer pieces to in-depth articles.

Rules & Requirements
Requisites: Prerequisite, MEJO 153.
Grading Status: Letter grade.

MEJO 565. Environmental Storytelling. 3 Credits.
An interdisciplinary course for students interested in environmental issues or journalism to produce stories about environmental issues that matter to North Carolinians. Students learn to identify credible sources, manage substantial amounts of information, and find story focus as they report on technical and often controversial subjects in a variety of media.

Rules & Requirements
Grading Status: Letter grade.
Same as: ENEC 565.

MEJO 569. Behavioral Science in Health Communication. 3 Credits.
In this course, students are provided with an in-depth understanding of how people make health decisions and what motivates them to act. Then, through discussions, hands-on exercises, and case studies of health campaigns, students learn how to apply behavioral science to identify, dissect, and determine the best communication solutions for some of the most important challenges facing healthcare today.

Rules & Requirements
Grading Status: Letter grade.

MEJO 570. Data Driven Journalism. 3 Credits.
An introduction to basic statistics and numerical and mathematical literacy, as well as a look at professional data-driven journalism projects. Students who successfully complete this course will be able to acquire, organize, analyze, and present data to a general news audience. Previously offered as MEJO 460.

Rules & Requirements

IDEAs in Action Gen Ed: FC-QUANT.
Requisites: Prerequisite, MEJO 253 or permission of the instructor.
Grading Status: Letter grade.

MEJO 571. Social Media Analytics. 3 Credits.
An introduction to the analysis of textual data using computer programming-based (so-called "Big Data") methods. Students will learn how to use code (or social listening tools) to analyze and visualize large datasets drawn from traditional and/or social media. No prior programming experience is required.

Rules & Requirements
Grading Status: Letter grade.

MEJO 572. Art Direction in Advertising. 3 Credits.
This course provides students with finished advertising for their portfolios through visual theory instruction, creative exercises, and strategy application. Previously offered as MEJO 472.

Rules & Requirements
Grading Status: Letter grade.

MEJO 580. Photo Stories. 3 Credits.
Advanced course in photojournalism content gathering, history, ethics and storytelling. Students shoot advanced newspaper and magazine assignments and create short multimedia stories combining photography, audio, and video. Previously offered as MEJO 480. Permission of the instructor.

Rules & Requirements
Grading Status: Letter grade.

MEJO 581. User Experience Design and Usability. 3 Credits.
Theory and practice of user experience design with an emphasis on usability, design theory, aesthetic design, and evaluative methodologies, including analytics and eye tracking research. Permission of the instructor.

Rules & Requirements
Grading Status: Letter grade.

MEJO 582. Advanced Documentary Video Storytelling. 3 Credits.
Students learn how to gather audio and video content, editing and storytelling techniques, and how to publish these media onto a variety of multimedia platforms. Permission of the instructor.

Rules & Requirements
Requisites: Prerequisites, MEJO 121 and 180.
Grading Status: Letter grade.

MEJO 583. Advanced Interactive Media. 3 Credits.
Advanced course in multimedia programming languages that includes designing and building dynamic projects. Permission of the instructor.

Rules & Requirements
Requisites: Prerequisite, MEJO 487.
Grading Status: Letter grade.

MEJO 584. International Projects. 3 Credits.
Permission of the instructor. Students work on a semester-long documentary multimedia project in an international location that includes photo and video journalists, audio recordists, designers, infographics artists, and programmers. Open by application to students who have completed an advanced course in visual or electronic communication. Honors version available.

Rules & Requirements
IDEAs in Action Gen Ed: FC-GLOBAL.
Grading Status: Letter grade.

MEJO 585. 3D Design Studio. 3 Credits.
The use of 3D design and animation to create visual explanations. Permission of the instructor.

Rules & Requirements
Grading Status: Letter grade.

MEJO 588. Emerging Technologies. 3 Credits.
This course will introduce students to storytelling with emerging technologies such as Augmented Reality, Virtual Reality, 360 Video, robots, drones, and other new technologies. Students will have the opportunity to learn and work with the latest VR hardware and create experiences for those platforms. Previously offered as MEJO 660.

Rules & Requirements
Grading Status: Letter grade.

MEJO 589. Motion Graphics. 3 Credits.
Detailed study and application of motion-graphic techniques that utilize the combination of words, photos, graphics, video, sound, and voice-overs to convey stories for news and entertainment. Students learn Adobe After Effects software and the art of storytelling to enable them to conceptualize and execute digital animations. Previously offered as MEJO 486. Permission of the instructor.

Rules & Requirements
Requisites: Prerequisite, MEJO 182.
Grading Status: Letter grade.

MEJO 591. Workroom FashionMash Experiential Design. 3 Credits.
The course combines a development workshop with a professional industry project, giving students unprecedented access to working creatives, industry trendsetters, and decision makers. In Workroom students will think, write, and execute their creative ideas. Previously offered as MEJO 650.

Rules & Requirements
Grading Status: Letter grade.

MEJO 592. Workroom FashionMash Product Design. 3 Credits.
The course combines a development workshop with a professional industry project, giving you unprecedented access to working creatives, industry trendsetters and decision makers. In Workroom you will not simply think and write about your creative ideas, instead, this class is completely focused on execution. Previously offered as MEJO 651.

Rules & Requirements
Grading Status: Letter grade.

MEJO 593. Washington D.C. In-Residence Semester. 3 Credits.
Students in the Washington D.C. In-Residence Semester work full-time as a communication intern, paired with an organization with help from professors, Hussman career services, and The Washington Center (TWC), which has more than 400 internship sites in D.C. Priority for UNC Hussman juniors and seniors enrolled in the Political Communication Certificate program, but open to all UNC students. All students must apply for the semester in D.C. through UNC Hussman's Global, Immersive and Professional Programs.

Rules & Requirements
IDEAs in Action Gen Ed: HI-INTERN.
Grading Status: Pass/Fail.

MEJO 594. Workroom FashionMash Editorial. 3 Credits.
Editorial photography in fashion is a storytelling medium for brands, designers and media platforms. Top editors, master photographers and leading filmmakers assemble a wide spectrum of creative specialists to design provocative fashion ideas. The concepts are often outlandish, using clothing that focuses on the narrative rather than wearability. Fashion curation, styling, casting, makeup/hair, artmaking, set building and unusual film techniques all work in concert in these powerful visual collaborations. This class explores what it takes to bring these conceptual moments to life. Students engage with industry experts to help produce professional work for major fashion brands.

Rules & Requirements
Grading Status: Letter grade.

MEJO 596. Individual Study. 3 Credits.
Permission of the instructor. An individual readings and problems course to be directed by a faculty member in whose field of interest the subject matter lies.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 6 total credits. 2 total completions.
Grading Status: Letter grade.

MEJO 602. Teaching Journalism in the Secondary School. 3 Credits.
Graduate standing. Readings, discussion, and projects fostering excellence in teaching journalism-mass communication in the high school, from philosophy and practice to professional skills.

Rules & Requirements
Grading Status: Letter grade.

MEJO 603. Mass Communication Law in the Secondary School. 3 Credits.
Graduate standing. Application of First Amendment speech and press freedoms to secondary school media, including libel, privacy, access to information, journalistic privilege, prior restraint, advertising and broadcast regulations, and ethical practices.

Rules & Requirements
Grading Status: Letter grade.

MEJO 604. Mass Communication Writing and Editing in the Secondary School. 3 Credits.
Graduate standing. High school journalism teachers and advisors learn to teach the skills journalists need to communicate. Emphasis on writing and thinking skills necessary to convert information into clear messages.

Rules & Requirements
Grading Status: Letter grade.

MEJO 605. Design and Production of Secondary School Publications. 3 Credits.
Graduate standing. High school journalism teachers and advisors learn to teach the skills journalists need to produce publications. Designed for persons with no background in design. Degree-seeking students may not use both MEJO 182 and 605 to complete degree requirements.

Rules & Requirements
Grading Status: Letter grade.

MEJO 625. Media Hub. 3 Credits.
Permission of the department. Students will work together to find, produce, and market stories that would attract the attention of professional media partners throughout the state and region, and at times, the nation. This hands-on course mimics the professional journalist's work environment more than any other class in the school. Honors version available.

Rules & Requirements
Grading Status: Letter grade.

MEJO 630. Business News Wire. 3 Credits.
This course teaches students how a news wire operates. Students will report stories about North Carolina companies on a real-time basis and market those stories to state media via e-mail and a Web site. Honors version available.

Rules & Requirements
Requisites: Prerequisite, MEJO 253 or permission of instructor.
Grading Status: Letter grade.

MEJO 631. Business Journalism Management. 3 Credits.
Learn how to oversee and manage a business news wire, including distribution of content to media organizations, managing an e-mail newsletter, and handling social media. Also involves some reporting and writing. Honors version available.

Rules & Requirements
Requisites: Prerequisite, MEJO 630 or permission of instructor.
Grading Status: Letter grade.

MEJO 634. Public Relations Campaigns. 3 Credits.
In this capstone experience, students apply concepts and skills from earlier classes to develop a campaign plan for a client organization. Activities include conducting background and audience research; developing realistic objectives, strategies, tactics, and evaluation plans; producing a portfolio of supporting materials; and pitching the campaign to the client. Previously offered as MEJO 434. Honors version available.

Rules & Requirements
Requisites: Prerequisites, MEJO 332 and 379.
Grading Status: Letter grade.

MEJO 644. Washington Experience. 3 Credits.
The Washington Experience is an intensive, semester long course that introduces students to careers in journalism and political communication and D.C.-based organizations and people. The hallmark of the course is a 12-week campaign simulation, where the class breaks into groups to either run candidates for office or cover those campaigns as journalists. Previously offered as MEJO 537. Enrollment preference will be given to students who have taken MEJO 144 and MEJO 244. Honors version available.

Rules & Requirements
Grading Status: Letter grade.

MEJO 652. Digital Media Economics and Behavior. 3 Credits.
The course will focus on the changing economics affecting 21st-century news organizations and the economic drivers of other content providers such as music companies, the film industry, online aggregators, and commerce sites for lessons that can be applied across industry segments. Previously offered as MEJO 551. Honors version available.

Rules & Requirements
Grading Status: Letter grade.

MEJO 653. Leadership in a Time of Change. 3 Credits.
During a time of fast-paced technological innovation, this course examines the critical strategic choices facing media executives. Students will observe and research a media company that is making the transition, as well as produce a case study on that effort. Previously offered as MEJO 552. Honors version available.

Rules & Requirements
Requisites: Prerequisite, MEJO 452, 475 or 652.
Grading Status: Letter grade.

MEJO 656. Magazine Writing and Editing. 3 Credits.
Instruction and practice in planning, writing, and editing copy for magazines. Previously offered as MEJO 456.

Rules & Requirements
Requisites: Prerequisites, MEJO 153 and 356.
Grading Status: Letter grade.

MEJO 669. Health Marketing Capstone. 3 Credits.
This is a capstone course and the final course in the Health Communication and Marketing Certificate program -- Students will be placed into teams to work with a client from the health communication and marketing sector to conduct formative research, develop a marketing communication strategy, create and test campaign materials, and present a final plan of action to the client. Restricted to students in the Health Communication and Marketing Certificate program. Honors version available.

Rules & Requirements
Requisites: Prerequisites, MEJO 469 and MEJO 569.
Grading Status: Letter grade.

MEJO 670. Digital Advertising and Marketing. 3 Credits.
This course provides the practical knowledge and insights required to establish digital advertising and marketing objectives and strategies, properly select the earned and paid media platforms, and monitor and measure the results of those efforts. Previously offered as MEJO 470. Honors version available.

Rules & Requirements
Requisites: Prerequisite, MEJO 379.
Grading Status: Letter grade.

MEJO 671. Social Marketing Campaigns. 3 Credits.
Social marketing is the application of marketing concepts and practices to bring about behavior change for a social good. This course is designed as a service-learning course and fulfills the experiential education requirement. Honors version available.

Rules & Requirements
IDEAs in Action Gen Ed: HI-SERVICE.
Grading Status: Letter grade.

MEJO 673. Advertising Campaigns. 3 Credits.
Planning and executing advertising campaigns; types and methods of advertising research; the economic function of advertising in society. Previously offered as MEJO 473. Honors version available.

Rules & Requirements
Requisites: Prerequisite, MEJO 371 or 372.
Grading Status: Letter grade.

MEJO 674. PRSSA Campaigns. 3 Credits.
This capstone class helps you integrate what you've learned in prior classes and apply those skills in researching, planning, and implementing a public relations plan for a real-world client selected by national PRSSA for the annual Bateman competition. Permission of the instructor.

Rules & Requirements
Grading Status: Letter grade.

MEJO 677. The Branding of Me. 3 Credits.
The goal of this course is for you to help you stand out when interviewing for a job by successfully creating a personal brand for yourself and blasting it all over the place online! We will do this by "branding" you. Branding yourself will include: your values, your belief system, your personality, your life ambitions and how you want to be viewed by others. Previously offered as MEJO 577.

Rules & Requirements
Requisites: Prerequisite, MEJO 477.
Grading Status: Letter grade.

MEJO 681. Documentary Projects. 3 Credits.
Students study the documentary tradition and produce stories within the social documentary genre of photo and video journalism. Students choose a relevant social issue and create a multimedia presentation featuring long-form documentary storytelling. Permission of the instructor. Honors version available.

Rules & Requirements
Requisites: Prerequisite, MEJO 580.
Grading Status: Letter grade.

MEJO 683. Magazine Design. 3 Credits.
Permission of the instructor. Detailed study of page layout and graphics techniques in magazines. Previously offered as MEJO 483.

Rules & Requirements
Requisites: Prerequisite, MEJO 482.
Grading Status: Letter grade.

MEJO 690. Special Topics in Advertising. 1-3 Credits.
Courses on special topics in advertising with subjects and instructors varying each semester. Honors version available.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 9 total credits. 3 total completions.
Grading Status: Letter grade.

MEJO 691H. Introductory Honors Course. 3 Credits.
Permission of the instructor. Required of all students reading for honors in journalism.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

MEJO 692H. Honors Essay. 3 Credits.
Permission of the instructor. Required of all students reading for honors in journalism.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

Graduate-level Courses

MEJO 701. Insights and Analytics. 3 Credits.
Students learn how to analyze, interpret, and evaluate applied research data gathered using multiple contemporary research methodologies common in strategic communication. There is a particular focus on discovering insights into audiences, brands, markets, media, and culture, which can then be used to drive decisions. The course will also explore methods of effectively communicating analytics and insights to audiences. Students will create and execute a research plan and identify appropriate insight(s) for a client organization. Restricted to students in the Master of Arts in Media and Communication program.

Rules & Requirements
Grading Status: Letter grade.

MEJO 703. Mass Communication Research Methods. 3 Credits.
Covers a broad range of research methods used in industry and academic research. Course content includes the process and organization of writing research; applying a variety of quantitative and qualitative research methods; evaluating research design; and ethical issues inherent in research. Required course for all doctoral students and theory and research master's students.

Rules & Requirements
Grading Status: Letter grade.

MEJO 704. Statistics for Social Science Research. 3 Credits.
Course examines when and why to use particular statistical tests to address a given research question and provides a framework for understanding research that uses quantitative methods. Prior knowledge of statistics NOT assumed.

Rules & Requirements
Requisites: Prerequisite, MEJO 701; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

MEJO 705. Theories of Mass Communication. 3 Credits.
In this course, students receive a broad introduction to the major theoretical perspectives in the field of communication and learn to apply them to their own research. Required of doctoral students and master's students in the theory and research area of study.

Rules & Requirements
Grading Status: Letter grade.

MEJO 710. Psychology of Audiences. 3 Credits.
Why do audiences do what they do? How can data be harnessed and interpreted to help drive communication strategy? With the fields of social psychology, consumer behavior, and market research as guides, students will identify an audience's motivations, values, and attitudes to more effectively analyze the what, why, and how of audience behavior. They will explore existing and emerging applied research techniques such as focus groups, eye-tracking, surveys, and facial mapping. Restricted to students in the M.A. in Digital Communication program.

Rules & Requirements
Grading Status: Letter grade.

MEJO 711. Multi-platform Storytelling. 3 Credits.
How are messages communicated through multiple platforms? How do media professionals balance and navigate their blurring roles as producers/consumers, writers/readers, and message senders/message receivers? Students will create flexible and strategic stories that can be disseminated through a variety of channels, including social media platforms, podcasts, video, and text. They will emerge with skills for content marketing, social media, or journalistic storytelling. Restricted to students in the M.A. in Digital Communication program.

Rules & Requirements
Grading Status: Letter grade.

MEJO 713. Media Analytics. 3 Credits.
How do communicators extract useful information and knowledge from data in digital and social platforms? What does data actually mean, and how can that knowledge be used strategically? Students will learn to apply data in a variety of ways, from data-driven storytelling to creating actionable insights. They will learn to identify the appropriate analytics tools for projects, uncover stories in data, and analyze data to make evidence-based decisions. Restricted to students in the Master of Arts in Digital Communication program.

Rules & Requirements
Grading Status: Letter grade.

MEJO 719. Leadership and Entrepreneurship. 3 Credits.
How does one mobilize an organization to action, regardless of job title? How does an employee influence decisions up, down, and across a company? Drawing lessons from organizational psychology and change management, students will explore challenges faced by today's media innovators and anyone hoping to make an impact in government, corporate, or non-profit arenas. They will learn to drive change, adapt their thinking, and innovate more effectively, whether in an established organization or a start-up. Restricted to students in the M.A. in Digital Communication program.

Rules & Requirements
Grading Status: Letter grade.

MEJO 720. Communication Strategy and Planning. 3 Credits.
How do communicators determine when and where to engage with target audiences? With all the media options available, how does one decide what to do and what not to do, based on the consumer decision journey? Students will develop the strategic skills needed to execute a go-to-market plan, enabling them to market anything to anyone. They will learn to find an underlying business problem, set attainable communications goals, and craft a compelling message that spreads. Restricted to students in the M.A. in Digital Communication program.

Rules & Requirements
Grading Status: Letter grade.

MEJO 722. The Business of Media. 3 Credits.
What are the broad economic issues affecting today's media landscape? How do media leaders evaluate the strategies of their businesses and competitors? Students will explore these questions for the industry through a comparative case study approach, investigating specific business challenges confronting start-ups and established companies. They will analyze the drivers of other content providers, such as streaming services, online aggregators, and commerce sites, to gain lessons applicable across industry segments. Restricted to students in the M.A. in Digital Communication program.

Rules & Requirements
Grading Status: Letter grade.

MEJO 723. Visual Literacy and User Experience. 3 Credits.
What is distinctive, usable, and understandable design? How is it central to a communicator's success? Students will explore best practices in online user experience (UX), user interface design, and website/app usability testing. They will experience a flexible and creativity-based learning environment while developing methods to design for user needs, strategies to map and optimize the user journey through visual elements, and visual literacy techniques to ensure success when managing digital design decisions. Restricted to students in the M.A. in Digital Communication program.

Rules & Requirements
Grading Status: Letter grade.

MEJO 724. Reputation Management. 3 Credits.
How do communicators strategically measure, monitor, and manage the organizational assets of brand image and reputation? What is the impact of reputation in business practice? Through a comparative case study approach, students will learn how to assign value to and manage reputation, regardless of their professional role and whether they work in the government, corporate, or non-profit sector. They will examine how crisis communication and corporate social responsibility influence reputation.

Rules & Requirements
Grading Status: Letter grade.

MEJO 725. Media Innovation in Practice. 3 Credits.
What iterative design-thinking approaches work for entrepreneurship and innovation? Students will experience the start-up process that allows them to think creatively about how to develop original media products and services. Using marketing, journalism, technology, public speaking, and business, they will engage in a direct experience where they will make quick decisions in the face of uncertainty, learn from failures and feedback, and assess the viability and sustainability of digital products and services. Majors only.

Rules & Requirements
Grading Status: Letter grade.

MEJO 730. Management and Case Studies. 3 Credits.
Introduction to strategic communication used by corporations, government agencies, and nonprofits to build and grow relationships with stakeholders. Students explore communication leadership skills by assessing goal-based research and critiquing strategic effectiveness of campaigns. Competency class for MA students; PhD students must have instructor permission. Students will also examine issues of client and audience management. Restricted to students in the Master of Arts in Media and Communication program.

Rules & Requirements
Grading Status: Letter grade.

MEJO 731. Campaigns and Clients. 3 Credits.
This is a comprehensive course designed to equip students with advanced knowledge and practical skills required to excel in strategic communication. This course provides a deep dive into the strategies, tactics and best practices necessary to successfully manage campaigns and clients in this ever-evolving industry. We will conduct a real-world, contemporary and forward-looking evaluation of the industry with an emphasis on providing insight by and access to practitioners currently working in the field. Restricted to students in the Master of Arts in Media and Communication program.

Rules & Requirements
Grading Status: Letter grade.

MEJO 732. Strategic Communication Writing. 3 Credits.
This course is designed to give you hands-on experience writing to inform and persuade your audiences, with an emphasis on digital and social media. It is structured as an applied skills lab with both in-class and out-of-class writing assignments and an additional element of message production on behalf of an organizational client. Restricted to students in the Master of Arts in Media and Communication program.

Rules & Requirements
Grading Status: Letter grade.

MEJO 740. Media Law. 3 Credits.
Survey media law areas: First Amendment, libel, privacy, intellectual property, corporate and commercial speech, media and judiciary, confidential sources, freedom of information, electronic and new media regulation, international issues. Semester topics may vary with class interests. Conduct legal research, identify/analyze secondary and primary legal resources, produce original graduate-level legal research.

Rules & Requirements
Grading Status: Letter grade.

MEJO 741. Law, Ethics, and Contemporary Issues. 3 Credits.
This course will provide students with a basic framework for current legal issues, including libel, copyright and First Amendment law, as well as discussion of journalism ethics and contemporary issues. In this course, you will explore the delicate balance that traditionally has existed between freedom and control of the media and how digital media and politics have shaken that balance. You will study both the old and the new law because both are relevant today. Restricted to students in the Master of Arts in Media and Communication program.

Rules & Requirements
Grading Status: Letter grade.

MEJO 750. Fundamentals of Reporting. 3 Credits.
This bootcamp course is designed to quickly prepare you to write and report on news stories, cover beats, issues, and feature stories, and to pick up the fundamentals of reporting and writing. It is a compressed crash course in becoming a budding journalist and storyteller. The camp is designed to teach you the fundamentals of news values, elements, writing styles, and reporting techniques. Restricted to students in the Master of Arts in Media and Communication program.

Rules & Requirements
Grading Status: Letter grade.

MEJO 751. Journalism Methods. 3 Credits.
This course is designed to help you hone the reporting, interviewing, research and analytical skills necessary to convey newsworthy information in written or visual formats. You will be challenged to identify and interview sources, concisely convey information and critically consider the best ways to inform an audience about an issue or topic, all of which are the hallmarks of "must-consume" journalism. Restricted to students in the Master of Arts in Media and Communication program.

Rules & Requirements
Grading Status: Letter grade.

MEJO 754. Advanced Reporting. 3 Credits.
Students will continue to hone their ability to find and interview sources, collect and analyze data, as well as organize and write compelling journalism. This work will culminate in a long-form feature that will serve as each student's capstone project. Restricted to students in the Master of Arts in Media and Communication program.

Rules & Requirements
Grading Status: Letter grade.

MEJO 755. Narrative Writing. 3 Credits.
This course is designed to guide students to primarily write non-fiction narrative long-form stories, but also to examine narrative storytelling for other mediums. All stories written in class are non-fiction, reported, and researched and told with a narrative arc to draw audiences into the storytelling as well as the reporting. Material for the course will include reading long-form stories, book excerpts, podcasts, and documentary films.

Rules & Requirements
Grading Status: Letter grade.

MEJO 756. Investigative and Data-driven Reporting. 3 Credits.
An introduction to basic statistics and numerical and mathematical literacy, as well as a look at professional data-driven journalism projects. Students who successfully complete this course will be able to acquire, organize, analyze, and present data to a general news audience. Restricted to students in the Master of Arts in Media and Communication program.

Rules & Requirements
Grading Status: Letter grade.

MEJO 758. Public Life Reporting I. 3 Credits.
This course introduces the structure and functions of city, county, and state government and focuses on understanding their impact on the daily lives of their citizens. We will examine and assess their decisions, financial choices, and community outcomes. We will focus on the main areas of impact, which include: education, health and social services, public safety, housing and community development, environment, transportation, and politics and elections. Master of Arts in Media and Communication students only.

Rules & Requirements
Grading Status: Letter grade.

MEJO 759. Public Life Reporting II. 3 Credits.
This course will delve into racial, social, ethnic and economic disparities in public policy and how to cover them more honestly and completely. It will also examine how media have dealt with these topics over the years, for better and for worse. Students will critique local and state coverage of some of these issues. They also will do some of their own in-depth reporting on these topics, individually and in small groups. Restricted to students in the Master of Arts in Media and Communication program.

Rules & Requirements
Grading Status: Letter grade.

MEJO 777. Personal Branding and Professional Networking. 1.5 Credits.
This is a two-part course that will teach students how to brand themselves as well as how to professionally network for employment purposes. Students will spend a semester strategically marketing their personal brands by writing blogs, recording podcasts, and using social media. They will then spend a semester professionally networking to ensure employment, focusing on resume redesign, LinkedIn profiles, social media, interview practice, interviewer follow-up, and negotiation of salary and benefits. Restricted to students in the M.A. in Media and Communication program.

Rules & Requirements
Repeat Rules: May be repeated for credit. 3 total credits. 2 total completions.
Grading Status: Letter grade.

MEJO 780. Fundamentals of Visual Journalism. 3 Credits.
This bootcamp course will teach you the foundational skills and concepts you will need to succeed in the Video Journalism and Interactive Journalism master's programs. The course will be divided into two sections, one focusing on interactive journalism and the other on visual (photography and video) storytelling. Combined, you will leave this course, in five weeks, with the ability to hit the ground running when the fall semester begins. Restricted to students in the Master of Arts in Media and Communication program.

Rules & Requirements
Grading Status: Letter grade.

MEJO 782. Digital Content Creation. 3 Credits.
Digital content creation is one of the cornerstones of modern strategic communication. This course provides students with a foundation in all the major platforms for digital storytelling. The core competencies include video production (cameras, lighting, audio, composition, sequencing, and editing), graphic design principles, data visualization, and interactive media (HTML, CSS, content management systems, and web hosting protocol). Restricted to students in the Master of Arts in Media and Communication program.

Rules & Requirements
Grading Status: Letter grade.

MEJO 790. Special Skills in Mass Communication. 1-3 Credits.
Courses on various skills in journalism-mass communication with subjects varying each semester. This course satisfies a skills- or craft-course requirement. Descriptions for each section available on the school's Web site under Course Details.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 3 total credits. 3 total completions.
Grading Status: Letter grade.

MEJO 792. Capstone Project Development. 3 Credits.
This course allows students to develop their thesis substitute/capstone projects. Students will work together to offer one another feedback and then get detailed feedback from a course instructor to help them develop and improve their projects. Restricted to students in the Master of Arts in Media and Communication program.

Rules & Requirements
Grading Status: Letter grade.

MEJO 793. Journalism and Media Graduate Internship/Practicum. 1 Credits.
Course for graduate students working in professional internship setting who desire or require course credit for an internship. By departmental permission only. Restricted to enrolled master's and doctoral students in the Hussman School of Journalism and Media.

Rules & Requirements
Repeat Rules: May be repeated for credit. 3 total credits. 3 total completions.
Grading Status: Letter grade.

MEJO 801. Professional Seminar in Doctoral Studies. 1.5 Credits.
Examines the role of doctoral studies in the academy; the components of scholarly writing, the expectations of someone studying for a Ph.D.; and the research, teaching, and service responsibilities of a university professor. Restricted to students in the Ph.D. in Media and Communication program.

Rules & Requirements
Repeat Rules: May be repeated for credit. 3 total credits. 2 total completions.
Grading Status: Letter grade.

MEJO 811. Persuasion and Social Influence. 3 Credits.
Examines social-scientific theories and concepts related to persuasion and social influence in communications. Topics include antecedents to behavior; automatic processing; source and receiver characteristics; and campaigns.

Rules & Requirements
Grading Status: Letter grade.

MEJO 825. Seminar in Interdisciplinary Health Communication. 3 Credits.
Permission required for non-majors. Interdisciplinary overview of communication theory and research and critical analysis of applications of theory to interventions using communication for health. Three hours per week.

Rules & Requirements
Requisites: Prerequisite, HBEH 730.
Grading Status: Letter grade.
Same as: HBEH 825.

MEJO 830. Public Relations Theory & Research. 3 Credits.
Readings, discussions, and research that explores theoretical foundations of public relations and strategic communication and how they are applied academically and professionally.

Rules & Requirements
Grading Status: Letter grade.

MEJO 840. Seminar in Media Law. 3 Credits.
Explore free expression theory, research media law perspective and methods. First Amendment theories and interpretations, exposition to, and critical evaluation of, legal research in communication. Identify legal research question, produce paper, and present findings in a scholarly convention presentation and/or publication.

Rules & Requirements
Requisites: Prerequisite, MEJO 740; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

MEJO 841. Research in Media and Intersectionality. 3 Credits.
This course provides analytical frameworks for examining and critiquing the role of media, with a focus on gender, race, class and other, intersecting categories of identity. Students will produce cultural analyses and criticism of media structures, content and audience reception, through research, writing and dialogue.

Rules & Requirements
Grading Status: Letter grade.

MEJO 842. Seminar in Mass Communication History. 3 Credits.
Readings, discussion, and projects in mass communication history.

Rules & Requirements
Grading Status: Letter grade.

MEJO 843. Media, Technology, and Cultural Production. 3 Credits.
Examines media industries, technologies, and cultural production. Focus on social processes and institutions, modes of industrial organization, technologies and information infrastructures, and relationships of economic and cultural power that structure the creation and distribution of media content.

Rules & Requirements
Grading Status: Letter grade.

MEJO 846. Seminar in International Communication. 3 Credits.
Reading and research in selected topics. Focus in recent years has included global news flow, communication and social change, communication in the collapse of communism, Western dominance in international communication, global culture, and the influence of technology.

Rules & Requirements
Requisites: Prerequisite, MEJO 446; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Same as: POLI 846.

MEJO 847. Communication for Social Justice. 3 Credits.
Examines the role of media and communication projects in advancing social justice goals. Surveys canonical literature and introduces students to the most recent approaches. Traditionally, the field has considered Global South projects and grassroots communication; this course pays attention to projects and programs for underserved populations of the Global North.

Rules & Requirements
Grading Status: Letter grade.

MEJO 850. Qualitative Research Methods. 3 Credits.
Survey of naturalistic methods applied to mass communication research, including ethnography, in-depth interviews, life histories, and text-based analysis.

Rules & Requirements
Grading Status: Letter grade.

MEJO 851. Textual Analysis. 3 Credits.
Textual analysis is a set of methods that focuses on written, visual and spoken language--what it represents and how it's used to make sense of the world. Qualitative text-based approaches are transdisciplinary and treat media texts as cultural artifacts that contain traces of socially constructed realities. These methods will be explored in reading and discussion, and students will complete original research.

Rules & Requirements
Grading Status: Letter grade.

MEJO 860. Content Analysis. 3 Credits.
Students will use appropriate research designs to collect content data for coding and analysis, conceptual and operational definitions of variables for coding, reliability testing of coding protocol and procedures, and appropriate statistical analysis of collected data. Additionally, students will select a topic, produce a content analysis study, and submit the study to a peer-reviewed convention or journal.

Rules & Requirements
Grading Status: Letter grade.

MEJO 861. Survey Research Methods. 3 Credits.
An in-depth look at survey research methods through extensive reading on the method's technical points, critique of published survey-based studies, and "hands-on" participation in different phases of the method's application.

Rules & Requirements
Grading Status: Letter grade.

MEJO 862. Experimental Design. 3 Credits.
This course focuses on the methodological and design issues in planning an experiment. Students will design an experiment using a step-by-step process to address conceptual challenges for exploring cause-and-effect relationships.

Rules & Requirements
Grading Status: Letter grade.

MEJO 863. Computational Research Methods. 3 Credits.
A graduate-level introduction to the analysis of textual data using computer programming-based (so-called "Big Data") methods. Students will learn how to use code to analyze and visualize large datasets drawn from traditional and/or social media, as well as discuss best practices for interpreting and theorizing the results. No prior programming experience is required.

Rules & Requirements
Grading Status: Letter grade.

MEJO 890. Seminar in Special Topics in Mass Communication. 3 Credits.
Seminar on various aspects of mass communication, with content and instructors varying each semester.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

MEJO 900. Reading and Research. 1-3 Credits.
Permission of the instructor. Advanced reading or research in a selected field.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

MEJO 992. Master's (Non-Thesis). 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

MEJO 993. Master's Research and Thesis. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

MEJO 994. Doctoral Research and Dissertation. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

Contact Information

School of Media and Journalism
Visit Program Website (http://www.mj.unc.edu/academics/graduate-studies/)
mjgrad@unc.edu
919.843.8307

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SCHOOL OF LAW (GRAD)

The nationally ranked UNC School of Law offers a broad legal education that rigorously blends academic and practical skills and leads to a Juris Doctor degree and prepare graduates for admission to the bar. To learn more, see our program website (https://law.unc.edu/academics/).

Admission Requirements

All admission requirements can be found on the program website (https://law.unc.edu/admissions/).

Juris Doctor, J.D.

Code	Title	Hours
1L Coursework		
LAW 201	Civil Procedure	4
LAW 204	Contracts	4
LAW 205	Criminal Law	4
LAW 207	Property	4
LAW 209	Torts	4
LAW 234A	Constitutional Law	4
LAW 295	Research, Reasoning, Writing and Advocacy, Part I	3
LAW 296	Research, Reasoning, Writing and Advocacy, Part II	3
Post 1L Coursework		
Professional Responsibility (PR) Courses [1]		2
Electives [2]		54
Rigorous Writing Experience (RWE) Courses		
Experiential Courses		
Minimum Hours		**86**

[1] See a list of Professional Responsibility (PR) Courses below.
[2] Electives must include at least 6 Experiential Credits and 4 Rigorous Writing (RWE) credits.

Professional Responsibility Courses

Code	Title	Hours
LAW 266	PROF RESPONSIBILITY	2
LAW 266F	PROF RESPONSIBILITY	3
LAW 266P	THE LAW FIRM	3

Distinguished Professors

Lisa L. Broome
Andrew D. Chin
John M. Conley
Maxine N. Eichner
Michael J. Gerhardt
Thomas L. Hazen
Carissa Byrne Hessick
Frederick Hessick
Jeffrey Michael Hirsch
Donald T. Hornstein
Melissa B. Jacoby
Eisha Jain
Thomas A. Kelley, III
Patricia A. Klinefelter
Joan H. Krause
Holning Sherman Lau
William P. Marshall
Eric L. Muller
Gene R. Nichol, Jr.
Leigh Osofsky
Mary-Rose Papandrea
Richard S. Saver
Theodore M. Shaw
Mark Weidemaier
Deborah M. Weissman

Professors

Kara Bruce
John Francis Coyle III
Deborah Gerhardt
Caleb Griffin
Osamudia Rachelle James
Joseph E Kennedy
Rick Tsu Su
Kathleen Thomas
Erika K. Wilson

Associate Professors

David Stephen Ardia
Barbara A. Fedders

Assistant Professors

Kate Sablosky
Dustin Ryan Marlan

Clinical Professors

Kimberly C. Bishop
Alexa Z. Chew
Lewis Moore Everett
Carrie Floyd
Beth Sheba Posner
Oscar Javier Salinas
Maria S. Savasta-Kennedy
Craig Tiedke Smith
Sara B. Warf
Marjorie Sara White
Janine Zanin

Clinical Associate Professors

Tracey Banks
John Wesley Brooker
Rachel Israella Gurvich
Anna Francesca Scardulla

Adjunct Faculty

Teresa Carol Artis
Sherrod Banks
Carmen K. Bannon
David L. Batty
Robert Birrenkott
Blum, Seth Adam
Mark Christopher Bolen
Edward Charles Boltz
Elizabeth Barnes Braswell

Jonathan Edward Broun
Patricia L. Bryan
Rosemary J. Cadigan
Felice McConnell Corpening
Laura Darr Coyle
Jennifer Van Zant Cross
Emily Kathrine Crowder
Benjamin Ari Davidson
Karen Pauline Davidson
W. Kearns Davis Jr.
Mark Allen Davis
Mary Patricia Devine
Jatinder Kaur Dhillion
Mark E. Dorosin
Stuart Battle Dorsett
Patryk Jerry Drescher
Dennis Michael Duffy
Robert Edward Duggins
Catherine Ross Dunham
Anita S. Earls
Sherry Honeycutt Everett
Elizabeth Fisher
Tristan Anne Fuierer
Lucinda Gardner
George Glenn Gerding
William Mark Griffith
Mikael Gross
Kenneth B. Hammer
Susan Elizabeth Hauser
Mark Lowell Hayes
John Richard Hazlett
Christopher J. Heaney
Ashley Lee Hogewood III
Samuel Spencer Jackson
Lakethia Gore Jefferies
Elizabeth Hendrix Johnson
Sally C. Johnson
John Brooks Kasprzak
Jillian Crowe Katz
Mark James Kleinschmidt
Christopher George Kukla
Tod M. Leaven
Bianca Mack
James M. Markham
Erik Mazzone
John Rankin McArthur
Ann W. McColl
Sarah Hill McIntyre
Carlene Marie McNulty
Jaye Powell Meyer
William S. Mills
Marcia Helen Morey
Sylvia K. Novinsky
Bentley Jason Olive
Mark E. Olive
Robert F. Orr
John V. Orth
Barbara J. Osborne
Dawn Osborne-Adams
David Whit Owens
Ryan Young Park
Kaitlyn Parker
Amanda Reid Payne
Matthew Scott Peeler
Charles Thelen Plambeck
Destiny Zapora Planter
Banumathi Rangarajan
Anne Louise Showalter
Elliot M. Silverstein
Elizabeth Simpson
Richard Albert Simpson
Jared Shane Smith
Kelly Podger Smith
Thomas M. Stern
Daniel K. Tracey
Kimberly Kathyleen Tran
Joni Walser
Jeffrey Ward
Edwin Love West III
Frank Dearmon Whitney
Melvin Forbes Wright Jr.

LAW (LAW)

LAW 199. Transition to the Profession. 0.25-1 Credits.
This is an optional 1-credit, 1-semester, pass/fail 1L course exploring what the ABA calls "professional identity" in law: "what it means to be a lawyer," especially in light of (1) obligations to clients and society and (2) the values, guiding principles, and well-being practices that are "foundational to successful legal practice." Students will consider and reflect on employment and service opportunities; bar-licensure obligations; legal education; and individually tailored pathways into and through the legal profession.

Rules & Requirements
Repeat Rules: May be repeated for credit. 1 total credits. 2 total completions.
Grading Status: Pass/Fail.

LAW 200. Professional Sports Law. 3 Credits.
This course will consider the legal and regulatory aspects of professional sports. Primary issues will include labor relations, antitrust, contracts, torts, and the regulation of agents.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 201. Civil Procedure. 4 Credits.
In this course, students will learn the process of civil litigation from start to finish. Topics covered include pleading, joinder of parties, discovery, territorial and federal subject matter jurisdiction, the Erie Doctrine, conduct of trial, jury selection and instruction, verdicts, judgments, and appellate review.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 204. Contracts. 4 Credits.
This course introduces students to all aspects of contract law. It covers contract formation, consideration, formal requirements and other aspects of enforceability, interpretation, effects of unforeseen circumstances, express and implied conditions, contract remedies, rights of third parties, and quasi-contract.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 205. Criminal Law. 4 Credits.
This course examines the functions and development of criminal law, including elements of criminal culpability, excuse and justification, theories of punishment, and specific crimes and defenses as defined by the interaction of statutes and common law. The criminal law's jurisprudential focus on responsibility and on the translation of social values into legal obligations provides an important foundation for the study of law.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 206. Criminal Procedure Investigation. 3 Credits.
The course examines the scope and limitations of permissible law-enforcement conduct in investigation of crime, with particular focus on constitutional limits established by the Fourth, Fifth, Sixth, and Fourteenth Amendments. Principal areas of coverage include rules governing search and seizure, and statements and confessions.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 206W. CRIM PRO: INVESTIGATN. 1-3 Credits.
Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 207. Property. 4 Credits.
This course introduces students to property concepts. Topics covered include concurrent estates, landlord-tenant law, contracts, fraud, equitable conversion, and conveyance by deed. Other issues covered include adverse possession, title covenants and title insurance, the creation, scope, and termination of easements and covenants affecting land. Some attention is paid to regulation of the use of land, nuisance, zoning, subdivision, regulation, and eminent domain.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 209. Torts. 4 Credits.
This course presents broad coverage of common law and statutory principles governing compensation for personal injury, property damage, and other harm. Depending upon the professor, specific areas of study may include intentional torts, negligence, wrongful death, worker's compensation, liability related to animals and abnormally dangerous activities, products liability, nuisance, misrepresentation, defamation, and privacy.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 210. Copyright Law. 3 Credits.
The course explores how the law regulates and protects video games, movies, music, art, comic books, software, the internet, DVRs, automobile design, sports broadcasts, theatre, show tunes, photography, architecture, etc.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 211. Trademark Law. 3 Credits.
Trademarks both signal sources and values and have significant expressive, cultural and commercial impact. This course covers federal and state trademark laws, which are important to anyone providing goods or services because they rely on protecting their reputation through brands. Topics include history of branding; getting and protecting trademarks; helping clients strengthen trademark portfolios; fair use; trademarks as speech; and infringement, counterfeiting, trademark dilution, and false advertising.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 211P. Trademark Practice Seminar. 3 Credits.
This course is designed to introduce students to the practical skills necessary to help clients identify, keep, and use trademarks. In this seminar, we will explore trademark law through practical exercises and writing assignments. We will work on a client matter throughout the semester.

Rules & Requirements
Requisites: Prerequisite, LAW 211 or LAW 265; Corequisite, LAW 211.
Grading Status: Letter grade, School of Law.

LAW 213. Law of Nonprofit Organizations. 3 Credits.
Students will study federal and state laws that govern the formation, operation, governance, and tax-exemption of nonprofit organizations, plus the policy considerations that motivate many of these laws. This course will be particularly valuable for students considering a public-interest transactional or tax practice and students who wish to incorporate nonprofit pro bono work, board service, or leadership into their careers.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 214. Immigration and Citizenship. 3 Credits.
This course surveys immigration law and policy in the U.S; explores questions relating to the meaning of citizenship, the circumstances under which newcomers are permitted to enter the U.S., and the circumstances under which they may be forced to leave; addresses complex statutes in the context of dynamic interplay between Congress, administrative agencies, and the courts; and considers current laws in their historical, social, and political contexts.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 215. INTERNATIONAL TAXATION. 2 Credits.
The course will cover the basics of US taxation of international income earned by individuals and businesses, examine international tax norms, and compare different countries' tax rules. We will incorporate policy discussion and consideration of anti-abuse rules aimed at protecting global tax coffers. Topics include tax residence and "expatriation", source of income principles, the foreign tax credit, earnings stripping, transfer pricing, 2017 legislation regarding the taxation of foreign income, and the international tax treaty network.

Rules & Requirements
Requisites: Prerequisite, LAW 280.
Grading Status: Letter grade, School of Law.

LAW 219. Alternative Dispute Resolution. 3 Credits.
This course examines the various alternatives to adjudication that lawyers use to help clients resolve civil disputes, including negotiation, mediation, collaborative practice, arbitration, private and public hybrids and other innovative processes. Students will learn about the theoretical basis for, and practical operation of, each process. The course will also address process design, effective advocacy in ADR settings, ethical and policy issues relevant to each process, and the relationship of ADR processes to the court system.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 220. Administrative Law. 3 Credits.
This course typically examines: the form and function of federal administrative agencies, which play a central role in the modern regulatory state; how agencies function in light of the Administrative Procedure Act and other statutes; how the legislative, judicial, and executive branches control and review agency decisions; the legitimacy and accountability of federal agencies in our constitutional system; and how the constitution constrains agency action.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 222. Workers Compensation Law. 2 Credits.
The course addresses the purposes, law, and practice of workers' compensation for injuries ranging from routine to complex; explores issues related to claims of mental trauma, repetitive motion disorders, chemical exposure, and workplace assaults; and considers practical aspects of representing injured workers and defending against compensation claims.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 224. Introduction to the Law of the United States. 1 Credits.
The course will focus on the structure of the U.S. legal system and legal education system. It will introduce the basics of case analysis, statutory interpretation, the application of regulations, and the role of the Constitution. It will also provide students minimal exposure to legal research methodologies.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 225. Criminal Procedure: Adjudication. 3 Credits.
The course addresses relevant pre-trial, trial, and post-trial aspects of the criminal justice process, including topics such as the following: prosecutorial discretion; grand juries; preliminary hearings; pre-trial release and detention; discovery; defense pleading; guilty pleas; jury trial; double jeopardy; right to confrontation; compulsory process; jury deliberations and verdict; sentencing; and appeal.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 226. Antitrust. 3 Credits.
This course provides an introduction to the legal doctrines, public policies, and intellectual theories that inform the practice and administration of federal antitrust law. We will encounter problems posed by monopolies, mergers, joint ventures, tying arrangements, exclusive dealing, collaboration in pricing, and other business behavior, as they have arisen in a wide variety of industries and markets.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 228. Business Associations. 4 Credits.
The course introduces law regarding corporations and other business entities, plus partnership and agency law, focusing on structure, governance, and characteristics of the entities. Topics include corporation formation; formalities required for corporate existence and governance, including elections and meetings of boards of directors; fiduciary duties; special considerations relating to small businesses; and mergers and acquisitions.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 228W. Business Planning. 3 Credits.
Business of practicing law; professional responsibility and professionalism; basic financial concepts; employment agreements, equity-based compensation; basic accounting principles and use of financial statements; valuation methods; choice of entity (C corporation, S corporation, B corporation, partnership, limited liability company); owners' agreements; venture capital financing; corporate securities; mergers, acquisitions and reorganizations.

Rules & Requirements
Requisites: Pre- or corequisite, LAW 228.
Grading Status: Letter grade, School of Law.

LAW 231. Defending Youth: Juvenile Justice and Education. 3 Credits.
A three-credit, graded course that uses simulations, discussion, video, and lecture to cover the substantive law and practical skills needed by lawyers in juvenile delinquency court and school suspension appeals. The course also presents for discussion and written reflection and analysis the ethical, strategic, and systemic issues that arise in these proceedings, focusing on how race, socioeconomic status, gender, sexual orientation, language of origin, and disability status affect outcomes for young people.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 232. Conflict of Laws. 3 Credits.
This course examines how courts choose which law should be applied to transactions, relationships, or occurrences having contacts with more than one state. The course will also touch on topics such as personal jurisdiction, the recognition of foreign judgments, choice-of-law clauses, forum selection clauses, and the extraterritorial application of U.S. law.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 234A. Constitutional Law. 4 Credits.
This is a survey constitutional law course. Among other things, it covers judicial review of constitutional issues, the allocation of power between the state and federal governments, the separate branches of the federal government and individual liberties protected under the Equal Protection and Due Process Clauses.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 234S. State Constitutional Law. 3 Credits.
This course examines state-level constitutional law.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 234F. First Amendment. 3 Credits.
This course surveys the First Amendment"s speech clause and to some extent its religion clauses. Typical topics include libel, campaign-finance regulation, obscenity, hate speech, commercial speech, subversive speech, speech on public property, freedom of association, religious speech, school prayer, public displays of religious symbols, and aid to parochial schools.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 236. Corporate Finance. 3 Credits.
Students will learn the fundamentals of corporate finance, including capital structure, valuation, and the legal implications of financial decisions. By bridging the gap between law and finance, this course prepares students to excel in transactional corporate law, securities regulation, M&A, and corporate litigation.

Rules & Requirements
Requisites: Prerequisite, Law 228.
Grading Status: Letter grade, School of Law.

LAW 237. Banking Law. 3 Credits.
The course explores the legal structure and federal regulation of the financial services industry. Topics include: formation and expansion of banks, bank holding companies, and financial holding companies; banking activities; and financial-service activities of banks and their holding companies.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 238. Bankruptcy. 3 Credits.
This course explores how the law, especially the federal Bankruptcy Code, addresses financial distress among households and for-profit and non-profit enterprises and the impact on the people to whom they owe money or other obligations. The central focus is federal Bankruptcy Code.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 238A. ADV BANKRUPTCY. 3 Credits.
Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 240. Election Law. 3 Credits.
This course addresses the body of law that structures and regulates the American political process. Topics covered include: the right to vote; one person/one vote; legislative districting; partisan gerrymandering; minority vote dilution; the constitutional rights of political parties; access to the ballot; direct democracy, and campaign finance regulation.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 241. Environmental Law. 3 Credits.
This course introduces legal mechanisms, particularly in federal law, to address environmental harms such as air and water pollution, toxic substances, habitat destruction, and climate change. Topics include: the interplay federal and state law; theoretical justifications and economic theory of environmental law; structure and interpretation of complex environmental law statutes; environmental policy mechanisms and their justification; and environmental law's political economy, distributive consequences, and implicated value choices. Honors version available.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 242. Evidence. 4 Credits.
This course focuses primarily on the following evidence-related topics: relevancy, including evidence of character or other crimes; hearsay and the relevant exceptions; expert and scientific evidence; impeachment and rehabilitation; and privilege.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 242T. Evidence. 3 Credits.
Evidence introduces students to all major aspects of the Federal Rules of Evidence through the problem-based method. The course covers the following topics: real and demonstrative evidence, relevancy, character evidence, expert and scientific evidence, examination of witnesses, credibility and impeachment, competency, hearsay, the Confrontation clause, and privileges. The focus of this course will be on the practical application of the rules of evidence in the courtroom.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 243. Employment Discrimination. 3 Credits.
This course covers federal law governing employment discrimination, primarily based on race, sex, disability, age, and religion. The main laws discussed will be Title VII of the Civil Rights Act, Americans with Disabilities Act, Age Discrimination in Employment Act, and the U.S. Constitution.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 243A. Employment Law. 3 Credits.
The course examines both national and state employment law. Typical topics include: the employment relationship; duties of employees; the at-will doctrine and its exceptions; employee speech; privacy; and federal regulation of working conditions (e.g., wage and hour requirements, family and medical leave, health and safety, and employee benefits).

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 244. Family Law. 3 Credits.
The course surveys the constitutional framework of family law and major issues such as marriage, divorce, child support and custody, division of property, spousal support, nontraditional relationships, and interstate considerations.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 245. EDUCATION LAW. 3 Credits.
This course will cover First Amendment issues in both the K-12 and higher education contexts. This will include the relationship of parents, students, and the state; speech rights of students, teachers, and professors; academic freedom; public school libraries; curriculum requirements / restrictions; speech restrictions on college athletes; religion and schools; and speaker policies.

Rules & Requirements
Requisites: Prerequisite, Law 234F.
Grading Status: Letter grade, School of Law.

LAW 246. Federal Jurisdiction. 3 Credits.
This course focuses on the role of the federal courts in relation to (1) other branches of the federal government and (2) states and their courts. Topics include: judicial review, particularly standing, ripeness, mootness, and political questions; congressional power to control federal jurisdiction; federal appellate jurisdiction; federal-question jurisdiction; supplemental jurisdiction; federal common law; state sovereign immunity; abstention; and "Our Federalism."

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 250. INSURANCE & DISASTER LAW. 3 Credits.
This course combines the basic insurance-law course with a 3-week introduction to the law of disasters. The law of disasters is a growing field for attorneys, and insurance is directly or indirectly one of the largest employers of attorneys and law firms in the country. The principal private-law skill students will learn is how to read an insurance contract and how to navigate the interpretive doctrines courts use to resolve insurance disputes. Honors version available.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 252. International Law. 3 Credits.
Permission of curriculum chair and instructor required. Practical problems of international law, including its nature; treaty making, interpretation, enforcement, and termination; recognition; territory; nationality; jurisdiction and immunities; state responsibility and international claims; and the law of war and neutrality.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 252E. PERSPECTIVES ON EUROPEAN LAW. 1 Credits.
Students will examine legal, economic, and political integration within the European Union (EU) and related organizations. Topics will include the EU's historical development and expansion, current status, and future plans; the EU's foundational treaties, legal institutions, and decision-making processes; basic procedures and jurisprudence of the Court of Justice; and EU legislation in corporate law and financial regulation, particularly as related to difficulties of harmonizing the substantive laws of EU Member States.

Rules & Requirements
Grading Status: Pass/Fail.

LAW 254. Labor Law. 3 Credits.
In this simulation course, the professor owns a company that produces labor-law knowledge and employs students covered by the National Labor Relations Act, which governs union organizing, collective bargaining, non-union collective action, economic pressure by employees through strikes, pickets, boycotts, etc., and protects employees who resist or challenge unions. Students/employees may organize and bargain with the owner over class rules and structure; act as corporate counsel; file election petitions or unfair labor practice charges, etc.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 258. Travel Seminar - Lawyer Identity. 1 Credits.
A group of eight students travel to northwest Wyoming over Fall Break for an intensive four-day seminar at the site of a WWII concentration camp for Japanese Americans. Examining the factors that led decent, talented lawyers to develop and support a system of mass oppression, students have the opportunity to consider the risks and temptations they will encounter in their own professional lives and point themselves toward professional identities of which they will be proud.

Rules & Requirements
Requisites: Pre- or corequisite, Law 266, or Law 266P, or Law 266F.
Grading Status: Pass/Fail.

LAW 259. Legal History. 2 Credits.
The goal of this course is to induct students into the history of ongoing development of American law. This course will develop critical skills in thinking about legal history and reading legal history scholarship.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 261W. Environmental Law Practice. 3 Credits.
This practice-oriented course examines environmental practice and policy through the perspectives of government regulators, law firm practitioners, and public interest lawyers, represented by guest speakers. Students conduct an interview, a negotiation, and a deposition, and also research and write a major motion or petition. The professor will hold individual conferences with the students to discuss their ongoing projects.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 265. Intellectual Property. 3 Credits.
This course provides an in-depth introduction to the three major branches of federal intellectual property law: trademark, patent, and copyright. The state law doctrines of trade secret and right of publicity are covered briefly. No prior technical background or knowledge is required or expected.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 266. PROFESSIONAL RESPONSIBILITY. 2 Credits.
This course covers the legal ethics and rules governing the conduct of lawyers.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 266F. PROFESSIONAL RESPONSIBILITY. 3 Credits.
This course examines the legal profession, regulation of the profession, confidentiality; the lawyer-client relationship, conflicts of interest; and duties to courts, adversaries, and third persons. Students will learn how to apply the rules to practical situations and think critically about the relationship between legal ethics and personal ethics.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 266P. PROFESSIONAL RESPONSIBILITY: THE LAW FIRM. 3 Credits.
This course explores relationships between professional and personal lives in varied law-practice organizations - private firms; solo practice; in-house counsel; government, university, non-profits; criminal prosecution and defense; and legal services. Topics include ethics, professionalism, family-practice balance, and economics of practice. Examining practice types as social and economic entities that influence and are influenced by the lives of those who work there, we'll include perspectives of lawyers and social scientists who have studied these issues.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 267. Advanced Legal Research. 2 Credits.
This course offers opportunities to expand your skills in using primary and secondary legal sources in the context of legal practice. By exploring a range of advanced search techniques for statutory, administrative, and case law research, students will gain experience formulating efficient research methodologies and evaluating sources of legal information in various formats. Course grades will be based on a series of research assignments and class participation.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 267T. Advanced Legal Research. 3 Credits.
This course offers opportunities to expand your skills in using primary and secondary legal sources in the context of legal practice. By exploring a range of advanced search techniques for statutory, administrative, and case law research, students will gain experience formulating efficient research methodologies and evaluating sources of legal information in various formats. Course grades will be based on a series of research assignments and class participation.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 267S. Advanced Legal Writing: Summer Lab. 2 Credits.
Students will receive individualized instruction in legal writing and analysis, focusing on practical legal documents. The professor will work with each student to determine the particular skills and genres to focus on. Then the professor and student will pursue the student's goals using the instruction-writing-feedback cycle with various practice problems, along with weekly remote class meetings and weekly individual conferences. Moreover, students will consciously examine and refine their writing processes through systematic, step-by-step training.

Rules & Requirements
Grading Status: Pass/Fail.

LAW 269. Media Law. 3 Credits.
Because everyone can be an online "publisher" and every company has some media presence, any well-trained lawyer benefits from knowing the basics about media law. This course covers legal and policy issues relating to print, electronic and digital media, particularly through the lens torts and constitutional law. Typical topics include defamation, privacy, news gathering, regulation of broadcasting and various digital technologies.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 270. Real Estate Transactions. 2 Credits.
This course deals with the law of mortgages, mortgage substitutes, and other forms of financing in which land is used as security. Typical topics include the economics behind our real estate law and negotiations, judgment liens, the role of other real estate professionals (brokers, appraisers, lenders, etc.), the law of eminent domain, commercial leases, and basic tax considerations.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 274. Social Justice Lawyering. 3 Credits.
This course helps law students systematically explore their ideals; their views of practice and the profession; the roles of lawyers and law in political activism; the organization of the profession; delivery of legal services to the middle class and the poor; professional responsibility. Other topics include strategies and activities of public-interest lawyers at the state and federal levels and in work with community activists.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 275. Secured Transactions. 3 Credits.
This course covers debt transactions in which the debtor offers personal property collateral to secure the debt. The creditor's interest in the collateral is a security interest and the course examines the creation, perfection, priority, and enforcement of this security interest under Article 9 of the Uniform Commercial Code. The class emphasizes statutory construction and practical considerations in structuring the transaction.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 278. Securities Regulation. 3 Credits.
A comprehensive survey of statutes and regulations governing securities distribution and trading on the stock exchanges; broker-dealer regulation; the definition of "security"; disclosure and registration obligations; exemptions from registration for small-scale transactions; broker-dealer sales practices; how the Securities and Exchange Commission regulates securities markets; and self-regulation of the securities markets (including the exchanges and the over-the-counter markets).

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 278W. Securities Regulation RWE. 1 Credits.
This RWE seminar requires research and writing on topics such as those set forth in the course description for Securities Regulation.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 279. International Business Transactions. 3 Credits.
This course focuses on international business transactions in the private sector; emphasizes issues peculiar to, or especially prevalent in, formation and enforcement of international contracts; explores dispute resolution in the context of cross-border transactions; and considers the advantages and disadvantages of various forms of doing business internationally through agencies and distributorships, licensing agreements, franchising, joint ventures, and the establishment of branches or subsidiaries.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 280. Income Taxation. 4 Credits.
This course covers basic issues involved in federal taxation of individuals-including the definition of taxable income, deductibility of certain business and personal expenses, and computation of gains and losses on sales and exchanges-and basic finance concepts such as debt versus equity, insolvency, and loan interest that will be useful even to students who don't go on to specialize in tax.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 284. Corporate Taxation. 3 Credits.
Tax consequences of corporate contributions; dividends and redemptions; liquidations; taxable and tax-free mergers and acquisitions. We will also consider choice of entity (corporation, partnership, limited liability company).

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 285W. State and Local Governmental Law. 3 Credits.
This course explores local democracy and decentralized power that is shared among governments. Topics include legal doctrines that determine powers of local governments; relationships between local and state governments; how state constitutions legally construct local governments and subject them to state control; the profound consequences that the legal structure of local governments have on the organization of American society; school financing; land-use; housing policy; economic development; city-suburb relations; and racial and class segregation.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 286. Patent Law. 3 Credits.
Introduction to substantive aspects of patent law, including doctrines, policies, and theories relevant to patent prosecution, counseling, and litigation. Students explore (1) an issued patent's form and substance, and claims that define a patent grant's substantive scope; (2) statutory requirements for obtaining a patent grant; and (3) law governing patent infringement. Technical background or knowledge is encouraged but not required, though students should be comfortable with readings in science and technology.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 287. Partnership Tax. 3 Credits.
The course covers partnership taxation, the tax treatment most commonly applied to small and medium-sized businesses. The course will also provide students extra practice in careful reading of a statutory code and accompanying regulations.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 288. Trial Advocacy. 3 Credits.
A study of the trial as part of the legal system. Class members participate in simulations of various pretrial and trial proceedings and a final full trial.

Rules & Requirements
Requisites: Prerequisite, LAW 242 or Law 242T (Evidence).
Grading Status: Pass/Fail.

LAW 291W. Scientific Evidence. 3 Credits.
The law of evidence as it pertains to scientists and other experts; the basic science (at a level for lawyers) underlying many of the most frequent and controversial topics of expert testimony, including DNA evidence, medical causation, economics, statistics, accident and crime scene reconstruction, and the "forensic sciences"; the application of the law of evidence in these various areas; and tactical considerations.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 295. Research, Reasoning, Writing and Advocacy, Part I. 3 Credits.
This class provides students with foundational, practice-oriented and skills-focused instruction. The course meets in small class sections and fosters active learning with opportunities for self-evaluation and feedback. Working both individually and in teams, students learn the fundamentals of legal reasoning, research, and writing, primarily by simulating important aspects of law-office work.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 296. Research, Reasoning, Writing and Advocacy, Part II. 3 Credits.
This class provides students with foundational, practice-oriented and skills-focused instruction. The course meets in small class sections and fosters active learning with opportunities for self-evaluation and feedback. Working both individually and in teams, students learn the fundamentals of legal reasoning, research, and writing, primarily by simulating important aspects of law-office work.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 301. Legislative Advocacy. 2 Credits.
This course will introduce students to the legislative process and the Legislative Branch of government, and develop practical skills associated with advocacy in the legislative arena. Areas of emphasis include: basic principles and processes of legislative lawmaking, public policy considerations that impact the legislative process and legislative lawmaking, legislative bill drafting; parliamentary procedure; legislative ethics; and advocacy skills such as oral presentation and debate, written argument and defense of a position.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 310. Constitutional Adjudication Seminar. 3 Credits.
Students argue and decide constitutional cases pending before the United States Supreme Court. Each week, two students argue a case before the other students sitting as a simulated Supreme Court, which will decide the case and then draft and file majority and dissenting opinions. Students receive feedback on written work and review video of their oral arguments with the professor, who shares suggestions for improvement.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 311. Supreme Court Program. 3 Credits.
This course involves representing clients before the U.S. Supreme Court. Students will write petitions for certiorari, oppositions to certiorari, merits briefs, and amicus briefs at the petition and merits stages. Students will also help identify cases that are good cases for Supreme Court review.

Rules & Requirements
Grading Status: Pass/Fail.

LAW 315. ESTATE PLANNING PRACTICUM. 2 Credits.
The course provides students with a solid foundation in basic and advanced estate-planning knowledge, skills, and strategies. It helps students build the technical and personal skills necessary to develop and implement a comprehensive estate plan. It will focus on ways to understand and meet a client's estate planning objectives with hands-on simulation exercises in developing, drafting, and executing an estate plan. Topics covered include tax mitigation, philanthropy, business succession, domicile, non-tax considerations, and fiduciary selection.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 316. Political and Civil Rights Seminar. 3 Credits.
Explores the critical roles law plays in defining and determining the scope, breadth, meaning, and applicability of civil and political rights. Topics include (1) the principles, rationale, and context of judicial decision-making regarding civil rights, particularly regarding to whom they apply, when they are abridged, and the remedies available; and (2) various historic and contemporary issues in civil rights law, such as discrimination in public education, accommodations, municipal services, voting, housing, land use, and employment.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 326. Nature of the Judicial Process. 2 Credits.
Search for careful and well-founded contemporary answers to age-old questions: What does it mean to be a good judge? How does the answer vary depending on location? What is an "activist" judge? What is a judge's proper role in achieving "justice" in a case? What is the requisite "judicial temperament"? How do or should politics and the will of the people affect the judicial process? Where is the best thinking and writing about these questions?

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 329. Congress and the Presidency. 3 Credits.
This seminar will examine the coordination and conflict between the Congress and the President in areas in which they share power but compete for dominance. Topics will generally be chosen from current or timely conflicts, including disputes over each branch's unilateral authority to interpret the Constitution; executive immunity and privilege; Supreme Court selection; impeachment and removal; internal rule-making in the Senate; pandemics; and foreign affairs, including international agreements and military conflicts.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 332. Legal Issues in Higher Education. 3 Credits.
This course focuses on the legal issues unique to the academic and business operations of institutions of higher education. Through examination of applicable laws, cases and regulations, institutional policies, public policy issues, and societal expectation, the seminar will explore issues relating to governance of higher education institutions, academic freedom and responsibility, freedom of expression, admissions and access to higher education, athletics, employment, research, regulation of higher education, and student affairs, among other topics.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 334. Current Issues in Privacy Law. 3 Credits.
This course explores the patchwork approach that characterizes constitutional, common law, statutory, and regulatory privacy law in the US federal system, including how existing and evolving law does or should address privacy and competing interests impacted by new technologies and industry or government practices. Typical privacy topics covered relate to media, health, criminal investigation, anonymity, employment, public records, consumer behavior, and other aspects of personal autonomy including decisional privacy.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 335. Advanced Torts: Business Torts and Products Liability. 3 Credits.
This course will explore tort law beyond personal injury and property damage, first regarding pure economic harm in business or economic settings-such as fraud, negligent misrepresentation, interference with existing and prospective contracts, tortious bad-faith contract breaches, boundaries between tort and contract, business disparagement, and unfair competition as tortious conduct-and second regarding products liability, including drug and medical-device liability.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 336. APPELLATE ADVOCACY. 3 Credits.
Appellate Advocacy teaches appellate practice and process and develops students' skills and judgment as writers and oral advocates. Students will learn fundamental principles of appellate practice and procedure, including standards of review, preservation of issues for appeal, and creation of an appellate record. Students will also receive advanced training in written and oral advocacy techniques. Students will prepare several pieces of work product that an appellate lawyer would create in the course of representing a client on appeal, culminating in an appellate merits brief and oral argument.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 338. Adv Commer Law/Contracts. 3 Credits.
Modern life depends heavily, and often invisibly, on commercial law and contracts. New technology dramatically shapes how parties make payments or extend credit for all sorts of transactions. This course permits students to learn about payment systems and related contract issues, as well as develop a range of professional skills and values. In addition, each student will develop expertise in a topic of interest through a research project selected in consultation with the professor.

Rules & Requirements
Requisites: Prerequisite, LAW 275.
Grading Status: Letter grade, School of Law.

LAW 340. Gender Violence and the Criminalized Survivor. 3 Credits.
This 3-credit class will partner with Stanford Law's Criminal Justice Center on a national research project about survivors of gender-based violence who killed an abusive partner. It covers the doctrinal concepts related to GBV generally, including civil and criminal remedies, GBV and children, economic issues, and civil rights issues. Students will gather data, conduct interviews, and make recommendations for policy and legislative changes related to survivor representation, conditions of incarceration, and needs upon re-entry.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 342. Comparative Constitutional Law Seminar. 3 Credits.
Examine the goals, methods, and practical relevance of comparative constitutional analysis, and compare approaches to separation of powers, judicial review, federalism, structural safeguards of democracy, and constitutional protection of human rights, including equality and free expression and socioeconomic rights. Develop both breadth and depth of knowledge by covering a wide range of topics through weekly readings, assignments, and discussions, and write a research paper to deepen understanding of a topic chosen by the student.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 343. Disability Law. 3 Credits.
This survey course provides an overview of laws impacting people with disabilities in the United States, emphasizing federal laws addressing employment, education, health care, housing, and public programs, and covering North Carolina law where applicable. The course includes discussion of current political issues regarding disability rights law and policy and the intersectionality of disability with race, sex/gender, age and other legal categories of identity.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 345. Construction Law. 3 Credits.
This seminar examines legal issues involved in the construction process, including rights and obligations of owners, contractors, subcontractors, and design professionals. Typical topics project design and delivery systems, claims and damages related to design and construction, workplace safety, alternative dispute resolution, liens, suretyship, sustainable construction, and computer-assisted design. One class session may be held at the site of a notable nearby construction project.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 346. Children and the Law. 3 Credits.
This course explores how the law addresses the interests of children and the relationship among those interests, parental interests, and state interests. Specific legal issues covered will include, but are not limited to, government restrictions on children's constitutional rights, children's rights and welfare in schools, the interests of children in family law, and children's rights in international law.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 357C. INTERNET LAW AND GOVERNANCE. 3 Credits.
This seminar will examine the legal and policy challenges presented by the many private actors that make up the Internet, including internet service providers (ISPs), search engines, and social media platforms such as Facebook, Google, and X. Course themes include the jurisdictional challenges posed by the global Internet as well as changing conceptions of freedom of speech, intellectual property rights, and privacy. We will also touch on issues of cybersecurity, defamation, antitrust, and contract law.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 358. Judicial Sentencing. 3 Credits.
This seminar provides a thorough introduction to sentencing law, policy and practice through weekly classes and separately scheduled workshops involving students and invited judges and criminal-justice practitioners. Classes focus on legal and policy dimensions of sentencing, particularly under North Carolina law, and correctional programs. The workshops are intensive case discussions, for which students and other participants must prepare by reading case studies, propose sentences for each case, and preparing to discuss them.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 361. Federal Indian Law. 3 Credits.
This course will explore American law as it concerns Indigenous peoples and nations. The course will trace the historical development of the field as well as major contemporary issues. These include jurisdiction, gaming, family law issues, tribal law, and more. The course will explore the relationship between the federal government, states, tribal nations, and individuals. Students will gain a truly unique perspective on American law, Native America, and exercise of authority in a colonial context.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 364. NC State Constitutional Law. 3 Credits.
This overview examines the North Carolina Constitution's origins, amendments, and development through case law, exploring ways in which the Constitution shapes contemporary legal debates in North Carolina and beyond on issues such as gerrymandering, separation of powers, and individual rights. Goals include: deepening understanding of the North Carolina Constitution, including through original research and collaborative projects: situating such study alongside federal Constitutional law, and serves as a bridge to public-law practice in North Carolina.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 368. NC Pretrial Litigation - Torts. 3 Credits.
This seminar covers pretrial litigation under the NC Rules of Civil Procedure and Evidence. Topics: pre-suit considerations, claims and defenses, written discovery and depositions, summary judgment and other motions and pretrial preparation. Course materials include an annotated copy of the NC Rules of Civil Procedure and Evidence, assigned NC appellate decisions and other supplemental readings. Material will be presented in the context of torts, but concepts will be applicable to all areas of civil litigation.

Rules & Requirements
Requisites: Pre- or corequisite, LAW 242 or LAW 242T.
Grading Status: Letter grade, School of Law.

LAW 380. INTERNATIONAL LAW OF HUMAN RIGHTS. 2 Credits.
This course provides an introduction to the theory and practice of human rights law. It examines legal frameworks for protecting human rights at the United Nations and regional human rights institutions, as well as the ways in which these legal regimes intersect with domestic law. The course will also discuss critiques of the international human rights system, for example, claims that the system is ineffective or imperialist.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 383. White Collar Crime. 3 Credits.
Examines the evolution of state and federal white-collar statutes including mail and wire fraud, RICO, and conspiracy; the powers of grand juries and other investigative bodies; sentencing under the federal guidelines; difficulties posed parallel civil and criminal proceedings; practical dimensions of being a successful white-collar lawyer on the enforcement/prosecution or defense side of practice; practice tips; and scenarios taken from current headlines. The course typically includes in-class exercises and high-profile guest lecturers.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 384. Intellectual Property Strategies and Transactions. 3 Credits.
This course introduces students to various intellectual property ("IP") strategies encountered in different industries, and the practical skills necessary to help clients identify, acquire, use and commercialize their IP assets. Students will draft IP-related agreements, such as confidentiality agreements, opinion letters, letters of intent, assignment agreements, and license agreements. Students are provided sample agreements and hypothetical fact patterns, and will learn to draft contract language that addresses their clients' specific needs and business objectives.

Rules & Requirements
Requisites: Prerequisite, LAW 265, LAW 286, LAW 210, or LAW 211.
Grading Status: Letter grade, School of Law.

LAW 386. Tax Policy Seminar. 3 Credits.
This seminar will explore the fundamental policy issues that influence our choice of tax laws. We will not focus in significant detail on the mechanics of the current law but will focus on what the tax law could and should be. Specific topics will include theories of distributive justice, progressivity, tax compliance and enforcement, consumption taxes as an alternative to an income tax, the capital gains tax, and tax expenditures like the mortgage interest deduction.

Rules & Requirements
Requisites: Prerequisite, LAW 280.
Grading Status: Letter grade, School of Law.

LAW 390. Youth Justice Clinic. 4 Credits.
The Youth Justice Clinic (YJC) is a four-credit hour clinic that can be taken in the fall, the spring, or for the full year. Law students in YJC represent children in delinquency proceedings and school suspension appeals, and adults in clemency applications and parole hearings.

Rules & Requirements
Requisites: Prerequisite, Approval by the Clinical Programs Office (through a lottery selection process).
Repeat Rules: May be repeated for credit. 8 total credits. 2 total completions.
Grading Status: Letter grade, School of Law.

LAW 391. Civil Legal Clinic. 3-7 Credits.
The Civil Clinic represents individual clients and collaborates with partner organizations on civil matters related to racial, economic, and gender justice. It focuses on the rights of tenants and workers. For Fall semester, students represent individual clients in civil litigation related to preserving affordable housing or maintaining a living wage. For Spring semester, students will continue representing their clients and will work on advocacy projects related to housing, employment, or other areas of civil justice.

Rules & Requirements
Requisites: Pre- or corequisite, Students must attend the Intensive Weekend Session in the Fall semester.
Repeat Rules: May be repeated for credit. 10 total credits. 3 total completions.
Grading Status: Pass/Fail.

LAW 397. Community Development Law Clinic. 4 Credits.
The Community Development Law Clinic (CDL) is a one semester clinic in which students provide corporate and transactional counsel to North Carolina nonprofit community development organizations. The aim of the CDL Clinic is to help students develop skills in corporate and transactional law and, at the same time, show them how those skills can be put to use in serving the needs of nonprofit social entrepreneurs, particularly in under-resourced communities.

Rules & Requirements
Requisites: Pre- or corequisite, LAW 213.
Repeat Rules: May be repeated for credit. 8 total credits. 2 total completions.
Grading Status: Pass/Fail.

LAW 398A. Immigration Clinic. 4-5 Credits.
Must attend Intensive Weekend in Fall. The Immigration Clinic is a two-semester clinic that provides students with an opportunity to represent low-income clients seeking humanitarian immigration relief. Students represent clients in their applications to U.S. Citizenship and Immigration Services and before Immigration Court or the Board of Immigration Appeals, depending on the client's needs. Students work in teams of two and will have weekly team meetings with their faculty supervisor about their client representation.

Rules & Requirements
Repeat Rules: May be repeated for credit. 9 total credits. 2 total completions.
Grading Status: Pass/Fail.

LAW 399. Supervised Research & Writing (Independent Study). 1-3 Credits.
Supervised Research & Writing requires research and writing of either a significant research paper or a series of related papers under direct supervision of a full-time UNC Law faculty member, who must meet periodically with the student and provide significant individualized feedback on both the student's ideas and writing, including a substantial draft. Enrollment requires advance written consent from both parties. The student must certify compliance with law school policy regarding multiple uses of written product.

Rules & Requirements
Requisites: Prerequisite, Permission of Law faculty member, filed with the law school registrar.
Repeat Rules: May be repeated for credit. 3 total credits. 3 total completions.
Grading Status: Letter grade, School of Law.

LAW 400. Honors Writing Scholars Practicum. 1 Credits.
This invitation-only course addresses ways to mentor and support first-year students as they adjust to RRWA and to legal advocacy, professionalism, research, and writing. An HWS meets with RRWA students--individually or in small groups--several times per semester to listen to them, mentor them on RRWA-related matters, and assist them with short exercises. An HWS also periodically cooperates with the students' RRWA professor.

Rules & Requirements
Requisites: Prerequisite, Enrollment is by application only during the preceding spring semester.
Grading Status: Pass/Fail.

LAW 400L. Honors Writing Scholars Lab. 1 Credits.
The lab follows and builds upon the fall semester Honors Writing Scholars Seminar. Using the training they will have received in the Seminar, the Honors Writing Scholars students will assist a section of the first-year RRWA students inside and outside the classroom.

Rules & Requirements
Requisites: Prerequisites, LAW 295, 296, and 400.
Repeat Rules: May be repeated for credit. 1 total credits. 1 total completions.
Grading Status: Pass/Fail.

LAW 401. Externship Program. 3 Credits.
The Externship Program enhances classroom instruction by engaging students in real-life lawyering experiences with practicing lawyers and judges. Students receive ungraded credits for externing with one of the Program's 100 externship partners, who serve as mentors and on-site supervisors, at federal and state levels and at government agencies, public-interest groups, and corporate-counsel offices for the students. The Program's faculty supervisors guide and facilitate students' exploration of their experience through tutorials, journal writing, and group discussion.

Rules & Requirements
Repeat Rules: May be repeated for credit. 12 total credits. 4 total completions.
Grading Status: Pass/Fail.

LAW 402. Externship Program. 4 Credits.
The Summer Externship Program is offered for six weeks from mid-May through the third week of June. Rising 2Ls and 3Ls participate in a lottery selection process. Students work on site at their externship 32 hours/week; submit weekly journals and time sheets; attend individual conferences with their faculty supervisor; and attend weekly class meetings (held on Fridays). In addition, students are required to attend a Monday orientation class before the program begins.

Rules & Requirements
Repeat Rules: May be repeated for credit. 12 total credits. 99 total completions.
Grading Status: Pass/Fail.

LAW 403. Full Term Externship. 12 Credits.
The Semester in Practice program offers full-time externships, with on-site supervisors at partner government agencies and public-interest organizations in Washington, New York, Atlanta, and North Carolina, as a capstone experience for students with demonstrated academic and professional excellence and interest in developing particular practical skills. The Program's faculty supervisors guide and facilitate students' exploration of their experience through tutorials, journal writing, and group discussion.

Rules & Requirements
Grading Status: Pass/Fail.

LAW 404. FOURTEENTH AMENDMENT. 3 Credits.
This course examines the legislative history and jurisprudence of the Fourteenth Amendment, focusing primarily on the Equal Protection Clause. The course studies the application of the Amendment to women, to people of color, to economic status, and to sexual orientation.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 405. Remedies. 3 Credits.
This highly practical course teaches students to make wise strategic choices so they can use law effectively for clients. Recurrent themes are which remedies to seek and how to frame issues effectively. The course covers three areas: methods for claiming and calculating damages; equity and equitable remedies such as injunctions, preliminary injunctions, and constructive trusts; and restitution, plus the unjust-enrichment action underlying that remedy.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 409. FIRST AMENDMENT LAW REVIEW. 1-3 Credits.
This course engages the journal's elected editors and staff, under faculty supervision, in editorial aspects of publishing the journal, as set forth in the journal's by-laws. The activity includes: recruiting and selecting new members; consulting with the journal's faculty supervisor and others who support the journal; and guiding and mentoring journal members in selecting topics, researching, writing, and editing.

Rules & Requirements
Requisites: Prerequisite, Permission is required.
Repeat Rules: May be repeated for credit. 3 total credits. 3 total completions.
Grading Status: Pass/Fail.

LAW 410. Banking Institute. 1-3 Credits.
This course engages the journal's elected editors, under faculty supervision, in editorial aspects of publishing the journal, as set forth in the journal's by-laws. The activity includes: recruiting and selecting new members; consulting with the journal's faculty supervisor and others who support the journal; and guiding and mentoring journal members in selecting topics, researching, writing, and editing.

Rules & Requirements
Repeat Rules: May be repeated for credit. 3 total credits. 3 total completions.
Grading Status: Pass/Fail.

LAW 411. NC Law Review. 1-5 Credits.
This course engages the journal's elected editors, under faculty supervision, in editorial aspects of publishing the journal, as set forth in the journal's by-laws. The activity includes: recruiting and selecting new members; consulting with the journal's faculty supervisor and others who support the journal; and guiding and mentoring journal members in selecting topics, researching, writing, and editing.

Rules & Requirements
Repeat Rules: May be repeated for credit. 5 total credits. 5 total completions.
Grading Status: Pass/Fail.

LAW 412. International Law Journal. 1-3 Credits.
This course engages the journal's elected editors, under faculty supervision, in editorial aspects of publishing the journal, as set forth in the journal's by-laws. The activity includes: recruiting and selecting new members; consulting with the journal's faculty supervisor and others who support the journal; and guiding and mentoring journal members in selecting topics, researching, writing, and editing.

Rules & Requirements
Repeat Rules: May be repeated for credit. 3 total credits. 3 total completions.
Grading Status: Pass/Fail.

LAW 413. Holderness Moot Court. 1 Credits.
Limited to law students in Holderness Moot Court program. Students will develop skills in legal research, written preparation, and oral advocacy.

Rules & Requirements
Grading Status: Pass/Fail.

LAW 414. Trial Law Academy. 1 Credits.
Limited to students on trial team. A study of the trial as part of the legal system. Class members participate in simulations of various pretrial and trial proceedings, as well as a final full trial and competition.

Rules & Requirements
Grading Status: Pass/Fail.

LAW 416. Law and Technology Journal. 1-3 Credits.
This course engages the journal's elected editors, under faculty supervision, in editorial aspects of publishing the journal, as set forth in the journal's by-laws. The activity includes: recruiting and selecting new members; consulting with the journal's faculty supervisor and others who support the journal; and guiding and mentoring journal members in selecting topics, researching, writing, and editing.

Rules & Requirements
Repeat Rules: May be repeated for credit. 3 total credits. 3 total completions.
Grading Status: Pass/Fail.

LAW 417. Spanish for American Lawyers. 3 Credits.
The goals of the course are to improve Spanish legal vocabulary and improve cross-cultural lawyering skills to enable one to work with Spanish speaking clients. The course will focus on legal issues that largely impact the Spanish speaking client. We invite several guest speakers who are experts in working with Spanish speaking clients to add dimension to the material we are studying. We also consider legal issues within a cultural context.

Rules & Requirements
Grading Status: Pass/Fail.

LAW 418. International Intellectual Property. 3 Credits.
Provides an overview of the substantive content of, and legal authority for, international IP rights, using cases, treaties, and other materials in copyright, patent and trademark law, and focusing on issues important to modern IP practice, including IP protection arising under international public law, the emerging role of transnational private law in acquisition and enforcement of IP rights, and the geopolitics of IP trade and harmonization.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 424. Church and State. 3 Credits.
This course covers the Religion Clauses of the U.S. Constitution's First Amendment. Typical topics include religious exemptions, financial aid to religion, school prayer, religious group autonomy, and religious participation in politics and public life.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 426. Complex Civil Litigation. 3 Credits.
Complex civil litigation may involve: multiple claims, parties, and tribunals; novel legal issues or remedies; complex factual determinations; and lots of money. Nonetheless, this course covers topics that arise in nearly all civil lawsuit--commercial disputes, employment or civil rights cases, product liability matters, antitrust or securities cases, etc. Typical topics include class actions; joinder; federal multi-district transfer and related methods of coordinating litigation; and judicial management of complex disputes, including in discovery and trial.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 427W. DISABILITY LAW. 3 Credits.
Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 429W. Business Associations RWE. 1 Credits.
This RWE seminar requires research and writing on topics such as those set forth in the course description for Business Associations.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 430. Trusts and Estates. 3 Credits.
This course covers intestacy, wills, and trusts. Classes cover the casebook materials, using a combination of class discussion and lecture.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 431. Law Practice Technologies. 3 Credits.
This course will survey selected software, technologies, and skills necessary to practice effectively as a 21st century lawyer. The intention of the course is to prepare students for evaluating these materials and using them in a practical setting and to examine the ethical questions that arise with their use.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 434. Criminal Justice Policy. 3 Credits.
This seminar focuses on issues related to self defense in criminal law, especially involving use of lethal force, chiefly via firearms. Students examine case studies of controversial shootings, write a research paper advocating a specific policy proposal plus a shorter op-ed style essay, and simulate a reform commission, deliberating and voting on their classmates' policy proposals.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 439. Animal Law. 3 Credits.
This course examines the role of animals in the law through various legal theories in property, tort, contract, trusts and estates, criminal, and constitutional law. More than simply an introspective into companion animals, students will also study the law's treatment of wildlife and animals used for commercial purposes such as entertainment, food and research.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 443. Commercial Arbitration. 3 Credits.
This course addresses both domestic and international law and practice of commercial arbitration, which in some industries is the norm, not exception, and which many consumer and employment contracts require. Typical topics include arbitration's unique procedural and substantive issues, including drafting and enforcing arbitration agreements and awards and conducting arbitration proceedings.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 444. Psychiatry and Law: Criminal Issues. 3 Credits.
This course addresses how mental illness and psychopathology interface with the legal system in both civil and the criminal areas, starting with an overview of psychopathology and assessment, including standardized assessments, psychological testing, forensic evaluations, and mental-health experts. Typical topics include confidentiality, privilege, treatment, risk assessment, civil commitment, malpractice, competency, restoration, criminal responsibility, sentencing, correctional issues, sexual offenders, and juvenile forensic issues. Students review approved forensic topics and draft and revise a research paper.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 446. Corporate Governance. 3 Credits.
This course explores contemporary issues in corporate governance. Areas of focus include the role of corporate constituents and their place within the broader corporate governance framework; the balance of power between various stakeholders in a corporation; and the future of corporate governance in light of new regulatory and technological developments.

Rules & Requirements
Requisites: Prerequisite, Law 228.
Grading Status: Letter grade, School of Law.

LAW 450. Health Law Bioethics and Quality of Care. 3 Credits.
This introductory health law course focuses on the law governing the provider-patient relationship, mechanisms for assuring quality of health care, and legal issues that implicate bioethics. Topics may include informed consent, formation and termination of medical treatment relationships, confidentiality of medical information, end-of-life care, emerging health care technologies, medical research, and organ donation and transplantation. The course also surveys the legal regulation of health care quality, such as medical malpractice, accreditation, and professional licensure.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 451. Health Law Organization, Regulation and Finance. 3 Credits.
This introductory health law course focuses on the regulation, structure, and financing of the American health care system, including the Affordable Care Act (ACA) and ongoing health care reform efforts. Regulation and structural issues include the legal organization of health care institutions, corporate practice of medicine doctrine, medical staff disputes, managed care, fraud and abuse, tax exemption, and health care transactions. Access and financing issues include health insurance regulation, the Emergency Medical Treatment and Active Labor Act (EMTALA), Medicare, Medicaid, and ERISA.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 456. Women and Health Law. 3 Credits.
Gender-related issues arise in many health care contexts -- some obvious (such as reproduction) and others less so (such as medical research). By examining selected legal topics, this course will provide an opportunity for students to explore the gender implications of the U.S. health care system. Topics may include, for example: women as patients and doctors, gender imbalance in clinical research, issues surrounding the use of reproductive technologies, domestic violence, and insurance coverage.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 458. Employee Benefits and Executive Compensation. 2 Credits.
This course focuses on non-cash employer provided benefits designed to help employees save for retirement and cover health care costs through the use of plans that are qualified under the Internal Revenue Code. It also looks at current trends in executive compensation, including equity plans, deferred compensation, and hot topics in executive employment agreements.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 461. Applied Legal Concepts I. 2 Credits.
This fall course provides a review of critical legal concepts for three subjects tested on the bar exam: constitutional law, contracts, and torts. Students will engage in a review of the substantive law and complete a variety of practice questions. The course is limited to 3Ls. Permission of the Instructor.

Rules & Requirements
Grading Status: Pass/Fail.

LAW 462. Applied Legal Concepts II. 2 Credits.
This spring course provides a review of critical legal concepts for three subjects tested on the bar exam: property, evidence, and criminal law/criminal procedure. Students will engage in a review of the substantive law and complete a variety of practice questions. The course is limited to 3Ls. Permission of the instructor.

Rules & Requirements
Grading Status: Pass/Fail.

LAW 463. Advanced Bankruptcy. 3 Credits.
Advanced Bankruptcy is a transition-to-practice writing and experiential course designed for students who have taken the basic bankruptcy course and would like to continue studying business bankruptcy in a more applied context.

Rules & Requirements
Requisites: Prerequisite, LAW 238.
Grading Status: Letter grade, School of Law.

LAW 464. Critical Legal Thought/Critical Lawyering. 3 Credits.
This course introduces students to social justice critiques of our current legal system and explores strategies for moving the law toward more socially just outcomes.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 465. Current Issues in Law and Medicine. 3 Credits.
This seminar explores contemporary issues in law and medicine from an interdisciplinary perspective. The course will address legal topics impacting the practice of medicine and the delivery of health care, with the aim of having students appreciate both the relevant law and the broader legal and medical context.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 466. Domestic and Sexual Violence Clinic. 4 Credits.
The Domestic and Sexual Violence Clinic is a full-year clinic in which third-year law students represent low-income clients in civil matters aimed at assisting them in safely leaving abusive relationships. Principally, students will be representing clients in domestic violence protective order hearings in District Court.

Rules & Requirements
Requisites: Prerequisite, LAW 242 or LAW 242T.
Repeat Rules: May be repeated for credit. 8 total credits. 2 total completions.
Grading Status: Pass/Fail.

LAW 467. Negotiation. 2-3 Credits.
The course uses a series of negotiation exercises and mock negotiations, readings, and discussion to teach the skills involved in negotiation. In addition, lawyers from the community are brought in to observe the students and give them feedback on their skills and techniques for one half-day weekend.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 468. Regulation and Deregulation: Concepts and Skills. 3 Credits.
This course studies such substantive types of economic regulation (and deregulation) as those found in the regulation of energy and electricity, telecommunications and the internet, food and pharmaceuticals, and consumer and financial affairs. The course will be offered every other year.

Rules & Requirements
Requisites: Prerequisite, LAW 220.
Grading Status: Letter grade, School of Law.

LAW 470. Agricultural/Food Law and Policy. 3 Credits.
This seminar will examine the legal and policy aspects of food and fiber production, with specific attention being paid to both traditional agricultural law issues and contemporary debates regarding how we grow, market, and sell food in the United States.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 472. Art Law. 3 Credits.
Art Law introduces students to a variety of legal areas surrounding artists, museums, galleries, auction houses and art collectors. This area of the law embodies contract issues, criminal law matters, intellectual property, constitutional concerns involving free expression, torts and the preservation of cultural heritage artifacts and sites. The impact of technology is another focus of the course. Recommended preparatory courses are Law 210 (Copyright) or 265 (IP).

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 474. Family Law Practice. 2 Credits.
Students will apply the doctrine they are learning in Family Law in hands-on exercises that will help them gain the skills to interview clients, prepare a divorce complaint, interrogatories for equitable distribution and spousal support claims, conduct negotiations regarding these claims, draft prenuptial and separation agreements, and prepare for trial on family law issues.

Rules & Requirements
Requisites: Pre- or Co-requisite, LAW 244 (Family Law).
Grading Status: Letter grade, School of Law.

LAW 477. Patent Prosecution Seminar. 3 Credits.
Pre- or Co-requisite: Law 286 (Patent Law) or prerequisite: Law 265 (Intellectual Property). The seminar focuses on practical application of patent law concepts in preparing and prosecuting patent applications. It examines patent statutes and U.S. Patent and Trademark Office (USPTO) rules governing patent prosecution as well as court decisions impacting and interpreting patents.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 479. Judicial Opinion Writing. 3 Credits.
This course requires students to operate in groups of five, each of which will function as a mock Supreme Court. After introducing students to materials on how courts function and stare decisis, each student Court will choose to decide cases in one of two areas - the first amendment or equal protection/due process.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 485. Interviewing and Counseling. 3 Credits.
The course uses a series of role playing exercises, readings and discussion to teach the skills involved in interviewing and counseling. Occasionally, an outside individual will be invited to the class to make the role plays more realistic. In addition, both mental health professionals and lawyers from the community will observe students and give feedback on their skills and techniques.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 488. Economic Justice Clinic. 4 Credits.
The Economic Justice (EJ) Clinic is a semester or year-long clinic in which students represent individual and organizational clients in civil matters related to consumer credit and debt, including issues related to home ownership and foreclosure, car ownership and repossession, and student debt. Certain courses may be helpful in providing background doctrinal understanding, including Consumer Law, Bankruptcy Law, Secured Transactions, and Negotiation. Departmental permission via the lottery selection process.

Rules & Requirements
Repeat Rules: May be repeated for credit. 8 total credits. 2 total completions.
Grading Status: Pass/Fail.

LAW 489. Energy Law: Resources and Electricity. 3 Credits.
Recommended prerequisite or This course is the ground level course for the law of energy resources (oil, coal, gas, renewable) as well as the laws of electricity production and delivery.

Rules & Requirements
Requisites: corequisite, Law 220.
Grading Status: Letter grade, School of Law.

LAW 490. North Carolina Civil Rights Law Review. 1-3 Credits.
This course is for members of the editorial board of the North Carolina Civil Rights Law Review. Credit will be awarded for completion of the responsibilities of the editorial board, including developing publishing timelines, soliciting articles from eligible and qualified academics and legal practitioners, thoroughly revising and editing articles, communicating constructive feedback to staff members on their writing and cite checking, managing the journal's online presence, and page proofing articles for publication. Restricted to 3L board members of the North Carolina Civil Rights Law Review journal.

Rules & Requirements
Repeat Rules: May be repeated for credit. 3 total credits. 3 total completions.
Grading Status: Pass/Fail.

LAW 491. Writing for Judicial Clerkships. 2 Credits.
This class is designed primarily for students interested in or already pursuing judicial clerkships after graduation. Students will track the life cycle of an appeal from initial briefing through final opinion and beyond. Through in-class exercises and out-of-class writing assignments, students will learn about the behind-the-scenes mechanics of an appellate court and develop their skills in synthesizing arguments and drafting clear and complete bench briefs, judicial opinions, and more.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 497. Small Firm Civil Practice. 3 Credits.
In this course, students will work on practical skills in those areas of civil law that small firm practitioners are most likely to encounter while also learning valuable practice management methods. This course will explore family law, trusts and estates, real estate practice, civil litigation, and small business representation.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 500. Externship. 6 Credits.
This 6-credit, 20-hour/week fall/spring externship opportunity is for a select group of our North Carolina partner sites such as federal judges, federal agencies, US Attorney Offices and others. It enables a limited group of 3L students to essentially take a half course classroom load while increasing on-site participation and deepening their externship learning experience.

Rules & Requirements
Repeat Rules: May be repeated for credit. 12 total credits. 2 total completions.
Grading Status: Pass/Fail.

LAW 502. Intellectual Property Clinic. 5 Credits.
The Intellectual Property Clinic (IP Clinic) is a one semester clinic in which third-year students assist individual entrepreneurs, small businesses and startups with the protection, acquisition and management of intellectual property rights. In addition to their direct client representation, all students will have the opportunity to become certified by the U.S. Patent and Trademark Office (USPTO), which provides students with limited recognition to practice before the USPTO under the supervision of the clinic faculty supervisor.

Rules & Requirements
Requisites: Prerequisites, LAW 265; or LAW 211 or 211P and LAW 210.
Repeat Rules: May be repeated for credit. 10 total credits. 2 total completions.
Grading Status: Pass/Fail.

LAW 503. Poverty and Public Policy in North Carolina. 3 Credits.
The seminar will examine, initially, the nature, extent and characteristics of poverty in NC. Early classes will consider the data and demographics of economic hardship in the state. Issues of economic inequality will also be explored. Finally, it will examine the impact of various recent NC public policy decisions on low income Tar Heels.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 504. International Debt Finance. 3 Credits.
This course will expose students to international debt markets, with a particular focus on borrowing and debt restructuring by sovereign nations. Because there is no international insolvency mechanism for sovereigns, borrowing and restructuring are closely related; lawyers must build a restructuring mechanism into the debt contract and be familiar with a unique patchwork of law.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 506. Amateur Sport Law. 3 Credits.
This course will cover the major statutory, constitutional, regulatory, and common law rules applicable to amateur sports. Students will learn the major issues in amateur sports law and engage in exercises that simulate sports law practice, including drafting a sports-related employment contract and summary of a current legal issue, and participating in a contract negotiation exercise.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 507. Criminal Justice and Civil Penalties. 3 Credits.
The course will focus on the U.S. criminal justice system. Topics: arrest practices, incarceration rates, prison conditions, race-/class-based disparities in criminal justice administration, secondary effects of mass incarceration on communities/families. It will then turn to how contact with the criminal justice system triggers numerous civil regulatory decisions. Topics: immigration enforcement, public benefits, employment, restrictions on movement.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 508. Current Topics in Criminal Justice. 3 Credits.
The course is designed to expose students to a series of current events and topics in the criminal justice system. Topics will include trends in imprisonment and incarceration, recidivism, forensic evidence, capital punishment, and the role of the media.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 510. Environmental Justice. 3 Credits.
This transition to practice course is designed for upper-level students interested in environmental law and/or civil rights law. Environmental Justice sits at the cross roads of environmental law and civil rights law. The course will examine the application of the law in practice, teaching students how to identify and address environmental injustice in various settings.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 511. Sexual Violence and the Law. 3 Credits.
Sexual Violence & the Law will provide an overview of the prevalence, causation, prevention, and response to sexual violence in our culture. Students will examine applicable state and federal statutes, court decisions, and policies in order to understand the various legal intersections, remedies for survivors, and due process considerations for alleged perpetrators.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 512. Life Cycle of an M&A Deal. 3 Credits.
This course will introduce students to one of the critical, culminating events in the life of a business organization: the negotiated merger or acquisition transaction. It will survey the work lawyers do at each of the main stages of the transaction and is directed at students who are considering careers as business lawyers.

Rules & Requirements
Requisites: Prerequisite, LAW 228.
Grading Status: Letter grade, School of Law.

LAW 513. Reproductive Rights and Justice Law, Policy & Practice. 3 Credits.
The course will explore the historical, social, and political context in which people's reproductive decisions are shaped and through which reproductive rights and justice law and policy has emerged. It will necessarily provide a basic overview and understanding of how broader public health laws and policies intersect with reproductive rights and justice issues.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 515. Military and Veterans Law Clinic. 4 Credits.
The Military and Veterans Law Clinic is a one-semester or full-year clinical course that is focused on assisting both former and current servicemembers. Students will represent low-income former servicemembers seeking legal status as a veteran. Veteran status is a prerequisite to VA health care and other life-altering benefits. Students may also serve as expert veterans benefits eligibility consultants to active duty military defense counsel who represent servicemembers in a variety of disciplinary proceedings.

Rules & Requirements
Repeat Rules: May be repeated for credit. 8 total credits. 2 total completions.
Grading Status: Pass/Fail.

LAW 516. Contract Drafting. 3 Credits.
This seminar will serve as an introduction to the nuts and bolts of contracting drafting. The seminar will address not only legal drafting issues, but also how to understand a client's practical business needs in order to effectively use the contract as a planning and problem-solving tool.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 522. Electricity and Renewable Energy Finance. 2 Credits.
LAW 489 recommended but not required. The course will focus on the practical skills of negotiating and drafting contracts and other legal documents associated with renewable energy projects. Students will have a fundamental understanding of and practice with the real estate, tax, finance, contract and regulatory issues affecting renewable energy projects.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 525. Exploring the Role of In-House Counsel. 3 Credits.
This transition-to-practice course, taught by a career general counsel, will introduce students to life as an in-house attorney. The course is for students considering careers as in-house counsel, whether as generalists, transactional lawyers, litigators or legal managers, and whether for manufacturers, financial institutions, technology firms, insurers, utilities, information providers, healthcare providers, other service providers or non-profits.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 526. Climate Change and the Law. 3 Credits.
This seminar will examine global climate change and the range of policy responses at the international, national, and subnational levels. Students will study policy options for mitigating climate change, the evolving international response to climate change, and national and subnational policies, including U.S. EPA regulation under the Clean Air Act, other federal laws and policies relevant to climate change mitigation, and state-level action by California, Northeast and Mid-Atlantic states, and North Carolina.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 527. Lawyering Communication and Negotiation Skills Survey. 2 Credits.
This course will serve as a survey of the basic theory and techniques of lawyering communication skills, like client interviewing, counseling, negotiations, and conflict resolution.

Rules & Requirements
Requisites: Prerequisites, LAW 295 and 296.
Grading Status: Letter grade, School of Law.

LAW 528. Race and National Security in Legal History: The Case of the Japanese American "Internment". 3 Credits.
This course examines how law constructed the program of removal and detention of 120,000 people of Japanese ancestry in WWII, and how Japanese Americans experienced and contested the government's program. The course will examine prewar Asian American legal history, the actions of the executive, legislative and judicial branches in carrying out the removal and detention program, the postwar path to redress, and the legacy of this history for antiterrorism policy and reparations for historical injustices.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 529. Writing for Practice. 2 Credits.
Writing for Practice (W4P) builds on the practical writing skills introduced in RRWA I and II to prepare students for writing in various legal practice settings. Like RRWA, W4P uses cycles of instruction-writing-feedback to help students hone their writing processes--for example drafting and revising--and products, including familiar genres such as internal memoranda and motion memos and new genres with new audiences, for example blog posts, letters, and feedback on others' writing.

Rules & Requirements
Requisites: Prerequisites, LAW 295 and LAW 296 (or equivalent for transfer students).
Grading Status: Letter grade, School of Law.

LAW 530. Electronic Discovery Technologies. 2 Credits.
The course helps students understand the growing practice of electronic discovery and how changes are impacting the way attorneys manage and provide legal services. Areas of focus include: document management in a digital environment; electronic discovery; information literacy; metadata, and professional responsibility. Readings and hands-on experience will address both general technological issues as well as specific legal ramifications within electronic discovery.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 531. Transactional Law Research. 1 Credits.
This course will offer students the opportunity to expand their skills in using legal resources and online research tools in the context of transactional law practice. A range of topics will include practitioner resources, transactional drafting tools, company research, and specialized topical resources for transactional areas such as securities, banking & finance, corporate governance, and intellectual property. Students will have gained experience formulating efficient research methodologies and using online practitioner tools in various research databases.

Rules & Requirements
Requisites: Prerequisites, LAW 295 and LAW 296.
Grading Status: Pass/Fail.

LAW 534. Privacy Law Survey. 3 Credits.
This course focuses on United States privacy law, including torts, contracts, constitutional laws, statutes and regulations, and societal norms that safeguard the right of privacy and personal dignity in the United States and which balance that interest against competing interests.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 535. Intellectual Property Negotiation Simulation. 1 Credits.
In this intensive practicum, students will engage in high-stakes negotiations involving the buying, selling or licensing of intellectual property rights. Students will be directly supervised and mentored by one of the two faculty members, each of whom is a recognized expert in intellectual property licensing negotiations. Hypothetical facts and clients will be based on real-world examples of high-stakes IP acquisition transactions.

Rules & Requirements
Requisites: Prerequisite, LAW 211 or LAW 210.
Grading Status: Pass/Fail.

LAW 538. Writing for the Bar. 2 Credits.
This course builds on the practical writing skills introduced in RRWA to prepare students to write for the Uniform Bar Exams, with a particular emphasis on the Multistate Performance Test (MPT). Students will write multiple MPTs and bar essays, receive feedback from the professor, and learn to self-assess their performance.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 540. Startup NC Law Clinic. 5 Credits.
Students will provide legal services to a range of for-profit organizations, ranging from tech start-ups to small businesses in low-income communities. The course will focus upon basic corporate work and commercial contracts, including choice of entity, forming corporations and limited liability companies, and drafting shareholder and operating agreements.

Rules & Requirements
Requisites: Prerequisites, Law 228 - Business Associations and Permission of the Program Director.
Repeat Rules: May be repeated for credit. 10 total credits. 2 total completions.
Grading Status: Pass/Fail.

LAW 541. Trauma-Informed Lawyering. 3 Credits.
This skills-based seminar provides the opportunity to explore and practice a trauma-informed approach to lawyering through readings, discussion, interdisciplinary guest speakers, and a multi-step simulation. Simulations will permit students to "represent" a client in a domestic violence or Title IX matter. Permission from Program Director.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 542. Legal Crisis Management. 2 Credits.
This course helps students learn (primarily through simulation exercises) practical, effective strategies to transmit legal analysis, advice, and risk assessment to diverse clients and stakeholders in highly sensitive or crisis-type situations. Exercises challenge students to communicate substantive legal analysis and advice in ways that are responsive to a specific client's needs and expectations. For each exercise, students will analyze a scenario, plan communication strategies, use their strategies in a communication simulation, and receive feedback.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 543. EU PRIVACY & AI LAW. 1 Credits.
Students will learn how the EU's General Data Protection Regulation (GDPR) and AI Act affect organizations in all sectors and countries, including the US. The course highlights the legal context of the GDPR and EU AI Act, examines foundational privacy and AI legal requirements, explores recent fines and enforcement by EU regulators, and uncovers practical tips for building legal and compliance programs. Grades will be based on class participation and 1 short paper.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 545. Prosecutor Practicum. 2 Credits.
In this simulation class, students adopt the role of prosecutor and are trained as though they have been newly hired. Through their work on a single case that unfolds as the semester progresses, they confront the ethical, evidentiary, and strategic dilemmas typically faced during a criminal prosecution.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 546. Legal Editing. 1 Credits.
In this one-credit RWE course, students learn, refine, and practice various editing techniques that strengthen their ability to communicate legal analysis -- and related types of writing -- clearly, succinctly, and effectively. Students also explore strategies for helping other legal writers substantially improve drafts. Legal Editing enhances skills learned in RRWA, further prepares students for advanced writing courses and for law practice, and complements work with journals, competition teams, and other organizations.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 550. Race and the Law. 3 Credits.
This seminar will explore the entwinement of race with American institutions through a legal lens in historical and contemporary contexts. Among other things, the course will interrogate how the concept of race has influenced law and legal thought, and how law and legal thought have influenced the concept of race.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 551. Law of Financial Crises. 2 Credits.
This course covers the legal options available to policy makers for addressing financial crises. It examines limitations on financial institutions to reduce risk and legal authorities to resolve systemic institutions. This course also examines the rulemaking, legal challenges and subsequent legislative changes that shaped today's legal framework. This course builds upon the Banking Law course, but it is possible for a student to be successful in the course who has not enrolled in Banking Law.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 552. Artificial Intelligence and the Law. 3 Credits.
This seminar will prepare students to be critical and informed observers of, and participants in, legal developments, disputes and discourses surrounding AI technologies. Topics will include the transformation of labor, including the practices of legal services and institutions; the rights, duties and liabilities attaching to the designs and activities of robotic and transactional AI agents; and the privacy, security, social and ethical impacts of AI and automation.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 553. Critical Race Civil Rights Lawyering Clinic. 3-9 Credits.
This clinic provides students with the opportunity to explore innovative methods for developing advocacy strategies to address issues of racial and social injustice and inequality. Students will learn to merge theories gleaned from critical race theory into effective legal advocacy strategies. Students will engage in direct representation of clients in a range of cases including but not limited to employment discrimination, fair housing, racial disparities in education, and collateral consequences of criminal convictions.

Rules & Requirements
Requisites: Prerequisite, LAW 242 or 242T.
Repeat Rules: May be repeated for credit. 9 total credits. 3 total completions.
Grading Status: Pass/Fail.

LAW 554. Fundamentals of Financial Services Regulatory Compliance. 2 Credits.
Against a backdrop of major regulatory change, expectations for financial services compliance functions have never been higher. This course will provide practical insight into how compliance programs are structured to meet those expectations, with a focus on key regulatory requirements, fundamentals of a compliance program; ethical standards in financial services and evolving issues in today's regulatory environment.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 556. Venture Finance. 3 Credits.
Introduction to key issues and documents that companies and investors negotiate when seeking or funding private investment, including venture capital, private equity, or angel investment transactions. The course will utilize the market-standard equity investment documents promulgated by the National Venture Capital Association to discuss negotiated terms in a practical context with real-world examples. The course will also cover other investment vehicles, including convertible notes and SAFEs. Moderate proficiency in Microsoft Excel required for this course.

Rules & Requirements
Requisites: Prerequisite, LAW 228.
Grading Status: Letter grade, School of Law.

LAW 557. Deposition Skills. 1 Credits.
This skills course provides an introduction to taking and defending a deposition. Students will learn how to examine a deponent efficiently and strategically and how to deal with objections. Students will also learn how to prepare a witness for deposition and how to defend the witness and the deposition record. Some coverage of expert depositions will be included.

Rules & Requirements
Grading Status: Pass/Fail.

LAW 558. Black Lives Matter and the Law. 0.5 Credits.
In this year-long reading group, students will consider the relationship between US law and racial inequality today. Students will meet for two-hour sessions eight times during the year. At each session, we will discuss a book that explores how a particular field of law has contributed to racial inequality, including criminal justice, the child welfare system, and housing segregation. Students will also assess the potential for law to play a role in redressing racial inequality.

Rules & Requirements
Repeat Rules: May be repeated for credit. 1 total credits. 2 total completions.
Grading Status: Pass/Fail.

LAW 559. Restorative Justice and the Law. 1 Credits.
This course will explore restorative justice and the ideas that form its foundation and investigate opportunities to put the theory into practice. It will give particular consideration to restorative justice practices as they relate to gender and other forms of family violence, as well as campus sexual assault matters. The course will compare restorative justice with transformative justice and community accountability mechanisms.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 561. Prosecutors and the Criminal Justice System. 3 Credits.
This seminar will introduce students to the major legal and policy issues surrounding the role of prosecutors in the criminal justice system. The reading for this course will include cases, law review articles, and some materials from popular media. Students will be asked to complete a seminar paper which will be written in stages during the semester.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 562. North Carolina Legal Research. 2 Credits.
This state-specific legal research course is designed for second and third-year law students who are interested in practicing law in North Carolina. Students will develop advanced proficiency in North Carolina case law and statutory research, regulatory materials, secondary sources, and municipal law research concepts through the context of state and local law issues and examples.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 563. Appellate Advocacy Competition Lab. 1 Credits.
Selection for a Holderness appellate advocacy competition team is required. The Lab provides training, support, and supervision by a faculty member for students whom the Holderness Board selected for appellate advocacy competition teams. The Lab also provides an academic structure to track student progress and withhold credit if a student does not complete the work required for the competition.

Rules & Requirements
Grading Status: Pass/Fail.

LAW 564. Dispute Resolution Competition Lab. 1 Credits.
Selection for a Holderness dispute resolution competition team is required. The Lab provides training, support, and supervision by a faculty member for Holderness Board students selected for dispute resolution competition teams. The Lab also provides an academic structure to track student progress and withhold credit if a student does not complete the work required for the competition.

Rules & Requirements
Requisites: Prerequisites, LAW 242, or 242T, and 288, 467, 485.
Grading Status: Pass/Fail.

LAW 567. Environmental Crimes Prosecution Seminar. 3 Credits.
This seminar explores the criminal enforcement provisions of various federal environmental statutes in the context of actual prosecutions in North Carolina. By engaging in practical exercises such as interviewing a witness, analyzing evidence, and preparing a prosecution recommendation or defense memorandum, students will gain an appreciation for the legal tools, policy considerations, and investigative hurdles in federal criminal law practice.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 568. Immigration Enforcement. 3 Credits.
This course examines the goals of immigration enforcement and its implementation in the United States. Topics include border and interior enforcement, employer-based enforcement, state and local enforcement, and the merger of criminal and immigration law. This course is not limited to students interested in immigration law careers. Issues of immigration enforcement are of general interest to the public, given their impact on employers, localities, and criminal prosecutors and defense attorneys, among others.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 569. Criminalized Survivor, Detention, and Justice Clinic. 4 Credits.
This clinic will focus on law-related avenues of relief for individuals who have been imprisoned for killing their abusers, or who have committed other felonies arising out of their circumstances as abused persons. Most of these incarcerated persons are women who were unable to introduce evidence of their abuse when charged, convicted, or sentenced. Students will seek sentencing mitigation, clemency, and parole and will engage in legislative and policy changes to improve outcomes for victim/offenders.

Rules & Requirements
Requisites: Pre- or corequisite, Law 340.
Repeat Rules: May be repeated for credit. 8 total credits. 2 total completions.
Grading Status: Pass/Fail.

LAW 570. Trial Advocacy Competition Lab. 1 Credits.
The Lab provides training, support, and supervision by a faculty member for students whom the Broun National Trial Team selected for trial advocacy competition teams. It covers opening and closing statements, direct examinations, cross examinations, use of evidence rules, trial strategy, recognizing explicit and implicit biases, anticipating and preparing for ethical challenges in advocacy, fostering attorney health and wellness, and using legal "soft skills" such as active listening, teamwork, time management, and collaboration.

Rules & Requirements
Requisites: Prerequisite, Law 242 or Law 242T; Corequisite, Law 288.
Grading Status: Pass/Fail.

LAW 571. Elections, Political Parties, and The First Amendment. 3 Credits.
The course will examine the freedom of speech and freedom of association issues that arise from the regulation of elections, political campaigns, and political parties. Issues to be covered include the regulation of campaign speech, campaign finance, electioneering, political parties, third party candidates and ballot access, political patronage, and partisan gerrymandering. First Amendment is a pre-requisite.

Rules & Requirements
Requisites: Prerequisite, LAW 234F.
Grading Status: Letter grade, School of Law.

LAW 572. CONTRACT BOILERPLATE. 3 Credits.
This course surveys the provisions that appear at the back of most contracts that nobody ever reads (e.g., the choice-of-law clause, the indemnification clause, the force majeure clause). Students will learn about the purpose of these provisions, the origins of contract boilerplate, and the variations between provisions of a similar type. They will also learn how to draft these provisions and how to litigate them should a contract wind up in litigation.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 573. GOVERNMENT ENFORCEMENT AND GLOBAL CORPORATE COMPLIANCE. 2 Credits.
Students will learn about government enforcement against corporate wrongdoing and the role that compliance plays in preventing, detecting, and resolving those issues. Simulation exercises will focus on drafting materials, scoping an investigation, conducting interviews, building a compliance program, conducting a risk assessment, and working on an M&A deal. The combination of substantive lectures, reading materials and doing simulation exercises focused on "real world" issues will provide skills/knowledge in a high demand area for a litigator or corporate attorney working in a firm, company, or government.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 574. THE LAWS OF CULTURAL PROPERTY. 3 Credits.
This survey course explores laws applied to the functioning, transactions, and resolution of issues regarding art, cultural heritage, historic preservation, indigenous heritage, and cultural property. Among topics explored are copyright, free speech, the relationships, rights and transactions among collectors, artists, dealers, auction houses, museums (nonprofits), cultural property in armed conflict, the Archaeological Resources Protection Act, the Antiquities Act, the Native American Graves Protection and Repatriation Act, the Abandoned Shipwreck Act, and cultural heritage of indigenous societies.

Rules & Requirements
Grading Status: Letter grade, School of Law.

LAW 575. Family Defense Clinic. 4-5 Credits.
In the Family Defense Clinic, students will represent parents in child welfare cases and survivors of domestic violence in civil protection order proceedings. Students will interview and counsel clients, conduct investigations, prepare case strategies, draft pleadings and motions, participate in the court system's Child Planning Conferences, and litigate cases.

Rules & Requirements
Requisites: Prerequisite, LAW 242 or LAW 242T; LAW 266 or LAW 266F or LAW 266P; Pre- or corequisite, LAW 346.
Repeat Rules: May be repeated for credit. 9 total credits. 2 total completions.
Grading Status: Pass/Fail.

Contact Information

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DEPARTMENT OF MICROBIOLOGY AND IMMUNOLOGY (GRAD)

The Department of Microbiology and Immunology, an administrative division of the School of Medicine, is a unit of The Graduate School. It offers instruction leading to the doctor of philosophy degree. A terminal master of science degree is granted only under special conditions. The department is highly regarded in many scientific disciplines, including immunology, microbial pathogenesis, virology, infectious diseases, host/pathogen interactions, molecular genetics, prokaryotic and eukaryotic molecular and cellular biology, and cancer biology. Research in the department is supported by funds from the University, the National Institutes of Health, the National Science Foundation, the American Cancer Society, and other private foundations and granting agencies.

Research Environment

The Department of Microbiology and Immunology consists of approximately 75 faculty members with active research laboratories, 60 graduate students, 90 postdoctoral scientists, 20 research staff, and 10 administrative staff, who together form a highly interactive, friendly, and collaborative community.

The department occupies the entire sixth floor (~25,000 net square feet) of the new Marsico Hall, as well as the recently renovated ninth floor of the Burnett-Womack Building. A significant number of faculty members who hold primary appointments in the department have laboratories in the nearby Lineberger Comprehensive Cancer Center as well as other departments within the School of Medicine and Gillings School of Global Public Health.

A variety of modern equipment is available in individual laboratories or shared by multiple users throughout the department. Well-equipped research laboratories are supplemented by specialized rooms dedicated to tissue culture, controlled temperature environments, BSL3 physical containment for research on microbial select agents, supervised animal care, etc. In addition, the University operates an extensive network of core facilities with major equipment and expert support staff, including flow cytometry, genomics, proteomics, oligonucleotide synthesis, DNA sequencing, X-ray crystallography, NMR, animal models (transgenic mouse and embryonic stem cell services), animal histopathology, bioinformatics, gene chips, confocal microscopy, electron microscopy, and mass spectrometry.

The department is fully supplied with high-speed Internet connections (both wired and wireless). University libraries provide electronic access to thousands of professional journals.

Admission

Students seeking admission to the Department of Microbiology and Immunology apply to BBSP, a common portal by which students interested in any of the 15 participating graduate programs begin their studies at UNC–Chapel Hill. To apply, prospective students should visit the BBSP (http://bbsp.unc.edu/admissions/) and graduate admissions (http://gradschool.unc.edu/admissions/) websites, fill out the online application, and select Microbiology and Immunology as their first choice of interest.

Financial Assistance

All Ph.D. students making satisfactory degree progress receive a stipend plus in-state tuition, fees, and health insurance. Funds are available from individual research grants, training grants, the department, and the University. Students are encouraged to apply for a predoctoral fellowship from the National Institute of Health, the National Science Foundation, or other organizations.

As is the case for all graduate students in the basic science departments of the UNC School of Medicine, education during the first year is under the guidance of the interdisciplinary Biological and Biomedical Sciences Program (BBSP). Students rotate through three different research laboratories of their choosing in year one. For students interested in microbiology and immunology, recommended classroom courses include Immunobiology (MCRO 614), Virology (MCRO 630), and Microbial Pathogenesis I (MCRO 635).

Upon choosing a dissertation laboratory and joining the Department of Microbiology and Immunology, students are provided with an outstanding learning environment, an opportunity to conduct cutting-edge research, and most importantly, thorough preparation for a successful career in science. The microbiology and immunology Ph.D. program is designed to provide a foundation of fundamental knowledge in modern microbiology and immunology, foster critical scientific thinking, develop written and oral communication skills, allow students to gain teaching experience, and offer opportunities to travel and present posters or talks at national meetings. Specific components of the microbiology and immunology Ph.D. training program include:

- Completion of six relevant courses, including two courses based directly on discussion of the primary literature (e.g., MCRO 710, MCRO 711, MCRO 712), and MCRO 795 are required. Students typically finish four of the six classes while in BBSP and the remainder during year two. There is no language requirement.
- The written preliminary exam (also known as the doctoral written examination) consists of an original non-thesis research proposal, written in a format similar to an NIH pre- or postdoctoral fellowship proposal. The proposal is written whenever the student likes over the course of the spring semester of year two.
- The oral preliminary exam (also known as the doctoral oral examination) centers on the topic of the thesis project and provides an opportunity for the student to demonstrate his or her ability to discuss the fields of science related to the thesis proposal, as well as the ability to analyze problems and design experiments. The exam serves a dual purpose as the initial meeting of the thesis committee. Therefore, a separate decision to approve or disapprove the thesis project will occur in the same meeting.

Students must regularly attend weekly student and departmental seminars (MCRO 701) beginning in year two and present their research annually in the student seminar series beginning in year three.

Students act as teaching assistants for two semesters in department-approved courses, typically in years two and three.

Students form a dissertation committee in the start of year three, obtain approval of their dissertation project, and meet annually with their committee to discuss research progress. Completion of sufficient original research for at least two first-author papers in high-quality peer reviewed journals is expected. As a minimum standard, to earn the Ph.D. degree we *require* that

- A student must make meaningful contributions to and be an author on at least two manuscripts intended for publication in respected, high-quality professional journals or books,
- At least one of the two manuscripts must be a first (or co-first) author primary research manuscript,
- At least one of the two manuscripts must be accepted for publication, and
- If the second manuscript is not accepted for publication, then peer reviews must be returned prior to the private Ph.D defense.

Microbiology and Immunology, M.S.

The MCRO MS degree program is primarily research based and exists only to serve two specific populations of students, as described under Admissions Requirements.

Course Requirements

Code	Title	Hours
Core Courses [1]		
MCRO 710	Seminar/Tutorial in Bacterial and Eukaryotic Microbes	2
or MCRO 711	Seminar/Tutorial in Animal Virology	
or MCRO 712	Seminar/Tutorial in Immunology	
MCRO 710	Seminar/Tutorial in Bacterial and Eukaryotic Microbes [2]	2
or MCRO 711	Seminar/Tutorial in Animal Virology	
or MCRO 712	Seminar/Tutorial in Immunology	
Electives		
Students must complete at least four graduate level (600 or above) semester-long elective courses in topics plausibly relevant to the scientific or research goals of the student. Some commonly taken electives are listed below. [3]		4
Thesis/Substitute or Dissertation [4]		
MCRO 901	Research in Microbiology or Immunology	1-15
MCRO 993	Master's Research and Thesis	3
Minimum Hours		**30**

[1] M.S. students must attend at least 1/3 of all student seminars and 1/3 of all faculty seminars each semester.

[2] Take another literature-based course, which can be MCRO 710 or MCRO 711 or MCRO 712, or a different course approved by the Director of Graduate Studies. The topics discussed in MCRO71X courses change each semester, so the same course number can be taken more than once for credit.

[3] Courses are counted by length, not credits, i.e., a 1 credit class and a 4 credit class count equally toward our requirement. To get credit for modular courses (i.e., courses less than a semester in length), sufficient modules (typically three) must be completed to equal one semester long course. Modular courses do not need to be taken in the same semester. BBSP 710 counts as two modules toward the MCRO M.S. degree. BBSP 705 does not count toward the MCRO degree.

[4] MCRO 901 and MCRO 993 are repeatable courses every semester.

Code	Title	Hours
MCRO Electives		
MCRO 614	Immunobiology	
MCRO 630	Virology	
MCRO 635	Microbial Pathogenesis I	
MCRO 640	Microbial Pathogenesis II	
MCRO 705	Data and Molecular Visualization for Biomedical Research	
MCRO 710	Seminar/Tutorial in Bacterial and Eukaryotic Microbes	
MCRO 711	Seminar/Tutorial in Animal Virology	
MCRO 712	Seminar/Tutorial in Immunology	
MCRO 730	Cancer Immunology	

Milestones

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 27) for more information.

- Master's Committee
- Master's Written Exam/Approved Exam Substitute
- Thesis/Substitute Defense
- Approved Master's Thesis
- Residence Credit
- Master's Exit Survey
- Master's Intradepartmental Review
- Master's Research Presentation

Recommended Checklist

- The expectation is to publish at least one first-author research paper.
- Students should take MCRO 721 in the fifth year unless they have completed the degree.

Microbiology and Immunology, Ph.D.

Our goal is to train MCRO PhD students to become first-rate scientists. The skills that we aim to impart include:

- Acquisition of broad background knowledge in modern microbiology and immunology.
- Demonstrate ability to critically evaluate the scientific literature.
- Demonstrate strong written and oral communication skills.
- Demonstrate facility in experimental design and execution, from concept through interpretation of results to publication.
- Foster collaboration and comfort with interdisciplinary science.
- Demonstrate teaching experience.
- Demonstrate appropriate professional conduct, including the responsible conduct of research.

Our department has collectively developed and fine-tuned a coherent and comprehensive plan for graduate education. Each aspect of our curriculum is designed to foster one or more of the skills listed above.

Course Requirements

Code	Title	Hours
Core Courses [1]		
MCRO 795	Research Concepts	2
MCRO 710	Seminar/Tutorial in Bacterial and Eukaryotic Microbes	2
or MCRO 711	Seminar/Tutorial in Animal Virology	
or MCRO 712	Seminar/Tutorial in Immunology	
MCRO 710	Seminar/Tutorial in Bacterial and Eukaryotic Microbes [2]	2
or MCRO 711	Seminar/Tutorial in Animal Virology	
or MCRO 712	Seminar/Tutorial in Immunology	
Electives		
Some commonly taken electives are listed below. [3]		3
Thesis/Substitute or Dissertation		
MCRO 901	Research in Microbiology or Immunology	1-15
MCRO 994	Doctoral Research and Dissertation [4]	3
Minimum Hours		**36**

Code	Title	Hours
MCRO Electives		
MCRO 614	Immunobiology	
MCRO 630	Virology	
MCRO 635	Microbial Pathogenesis I	
MCRO 640	Microbial Pathogenesis II	
MCRO 705	Data and Molecular Visualization for Biomedical Research	
MCRO 710	Seminar/Tutorial in Bacterial and Eukaryotic Microbes	
MCRO 711	Seminar/Tutorial in Animal Virology	
MCRO 712	Seminar/Tutorial in Immunology	
MCRO 730	Cancer Immunology	

1 Ph.D. students must attend at least 2/3 of all student seminars and 2/3 of all faculty seminars each semester.

2 Take another literature-based course, which can be MCRO 710 or MCRO 711 or MCRO 712, or a different course approved by the Director of Graduate Studies. The topics discussed in MCRO 71X courses change each semester, so the same course number can be taken more than once for credit.

3 In addition to the three required courses, students must complete at least three graduate level (600 or above) semester-long elective courses in topics plausibly relevant to the scientific or research goals of the student. Courses are counted by length, not credits, i.e., a 1 credit class and a 4 credit class count equally toward our requirement. To get credit for modular courses (i.e., courses less than a semester in length), sufficient modules (typically three) must be completed to equal one semester long course. Modular courses do not need to be taken in the same semester. BBSP 710 counts as two modules toward the MCRO PhD degree. BBSP 705 does not count toward the MCRO degree.

4 Students must take MCRO 994 twice for a minimum of 6 credit hours.

Milestones

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 27) for more information.

- Doctoral Committee
- Doctoral Oral Comprehensive Exam
- Doctoral Written Exam
- Prospectus Oral Exam
- Dissertation Defense
- Doctoral Dissertation Approved/Format Accepted
- Residence Credit
- Doctoral Exit Survey
- Doctoral Intradepartmental Review
- Doctoral Teaching Experience
- Doctoral Research Presentation
- Doctoral Manuscript Submission

Recommended Checklist

- The expectation is to publish at least two first-author research papers.
- Students should take MCRO 721 in the fifth year unless they have completed the degree.

Following the faculty member's name is a section number that students should use when registering for independent studies, reading, research, and thesis and dissertation courses with that particular professor.

Professors

Kristy Ainslie (120), Formulation of Vaccines and Drug Delivery Treatments for Immune Modulation to Treat and Prevent Infectious and Other Diseases[1]

Ralph Baric (76), Molecular Mechanisms of Virus Cross-Species Transmissibility and Systems Genetics and Pathogenesis[1]

Robert Bourret (64), Signal Transduction in Bacteria

Wesley Burks (102), Allergic Diseases, Mechanisms and Immunotherapy[1]

Bruce Cairns (93), Immune Response to Injury, Cellular Immunology, Transplantation[1]

Craig E. Cameron (125), Respiratory Enteroviruses, Biochemistry and Cell Biology of Genome Replication, Host Response, Antiviral Therapy, Single-Cell Analysis, Between-Individual Variation in Host Response, Personalized Medicine

Myron S. Cohen (55), Biology and Epidemiology of Transmission of STD Pathogens (Including HIV)[1]

Peggy Cotter (97), Microbial Pathogenesis, Molecular Genetics, Protein Secretion

Blossom Damania (79), Kaposi's Sarcoma-Associated Herpesvirus (KSHV/HHV-8), Rhesus Monkey Rhadinovirus (RRV)
Jeff Dangl (87), Plant Genetics, Plant Microbiome, Plant Disease Resistance and Cell Death Control, Bacterial Type III Secretion Systems[1]
Toni Darville (117), Chlamydia Trachomatis Pathogenesis and Immune Protective Mechanisms[1]
Kristina De Paris (98), Neonatal/Pediatric Immunology; Pathogenesis of Infectious Diseases; HIV and Co-Infections
Aravinda de Silva (73), Arthropod Vector-Borne Infectious Diseases and Microbial Pathogenesis
Dirk Dittmer (88), West Nile Virus (WNV) and Kaposi's Sarcoma-Associated Herpesvirus (KSHV/HHV-8)
Gianpietro Dotti (112), Cancer Immunotherapy, Genetic Engineering; T-Cell Therapies, Tumor Microenvironment
Jack Griffith (35), Chromosome Structure: Viruses and Their Host Cells
Mark Heise (83), Molecular Genetics of Viral Pathogenesis[1]
Tal Kafri, Development of HIV-Based Vector for Gene Therapy, Epigenetics of HIV and HIV-1 Vectors, Basic Biology of Nonintegrating HIV-1 and HIV-1 Vectors
Sam Lai (105), Mucosal Immunity, Antibody Engineering, Antibody Response to Nanomaterials, Targeted Drug Delivery, Bacteriophage Engineering, Vaccines[1]
Zhi Liu (91), Biochemistry, Cell Biology, and Immunology of Hemidesmosome and Basement Membrane[1]
David M. Margolis (90), Regulation of Gene Expression, Molecular Biology of Retroviruses, HIV Pathogenesis[1]
Robert A. Nicholas (94), Antibiotic Resistance Mechanisms, Bacterial Genetics, Neisseria Gonorrhoeae[1]
David Peden, Translational and Clinical Research in Environmental Lung Disease[1]
Matthew Redinbo, Structural and Chemical Biology of Host-Pathogen Contacts[1]
R. Balfour Sartor (77), Etiology and Pathogenesis of Inflammatory Bowel Disease (especially Crohn's Disease and Associated Extraintestinal Manifestations)[1]
Barbara Savoldo (121), Cancer Immunotherapy, T Cell Viral Immunity, T Cells Based Therapies [1]
Jonathan Serody (82), Transplantation and Tumor Immunology[1]
Ronald Swanstrom (74), Molecular Biology and Pathogenesis of HIV[1]
Rita Tamayo (100), Microbial Pathogenesis, Bacterial Genetics, Bacterial Gene Regulation
Jenny P. Ting (50), Molecular Immunology, Transcription, Signal Transduction, Apoptosis, Neuroimmunology, Transplantation[1]
Roland Tisch (70), Immune Tolerance, T-Cell Antigen Recognition, T-Cell Mediated Autoimmunity, Tumor Antigen-Specific Genetic Vaccines, Type 1 Diabetes
David van Duin, Translational/Clinical Research, Antimicrobial Resistance, Infections in Immunocompromised Hosts[1]
Barbara J. Vilen (78), Molecular Immunology, Signal Transduction, and B Cell Tolerance
Yisong Wan (103), Regulatory T-Cell and TGF-Beta Signaling Controlled T-Cell Function Under Normal and Pathological Conditions
Jason Whitmire(124), Viral Immunology, Memory T-Cell Differentiation, Vaccines, Inflammation, Microbial Immunology[1]

Associate Professors

Luther Bartelt, Microbial Pathogenesis, Host-Pathogen Interactions, Microbiota-Pathogen Interactions, Metabolomics, Immunity[1]
Brian Conlon (115), Antibiotic Resistance, Bacteriology
Camille Ehre, Respiratory Virus and Host Interactions, Muco-Obstructive Lung Diseases, Cellular Response to Infection, Innate Defense Mechanisms[1]
Misty Good, Neonatology, Developmental Biology, Intestinal Immunity, Mucosal Immunology, Epithelial Biology, Necrotizing Enterocolitis[1]
Nilu Goonetilleke (116), T-Cell Immunology, HIV-1 Immunobiology
Jonathan Hansen (110), Inflammatory Bowel Disease, Host-Microbe Interactions, Microbial Adaptation/Evolution, Experimental Colitis[1]
Matthew Hirsch, AAV Gene Therapy, Gene Editing, Cellular Response to Foreign DNA[1]
Helen Lazear (114), Innate Immune Mechanisms that Control Flavivirus Pathogenesis
Jessica Lin, Molecular Epidemiology, Malaria Transmission, Parasite Genotyping, Infectious Disease[1]
Nancie MacIver, Nutritional Immunology and Immunometabolism[1]
Jason Mock, Immunology, Acute Lung Injury, Mechanism Underlying Lung Repair and Resolution[1]
Cary Moody (103), Pathogenesis of Human Papillomaviruses
Nathaniel Moorman (104), Molecular Virology, Host Pathogen Interactions, HCMV Pathogenesis
Timothy Moran, Immune Mechanisms of Allergy and Asthma[1]
Raymond Pickles (86), Respiratory Viruses, Host Innate Defense in the Airway, Virus-Host Cell Interactions, Gene Therapy for Cystic Fibrosis and Other Lung Diseases
Yuliya Pylayeva-Gupta (126), Tumor Immunology, B Cell Biology, Immunosuppression and Immunotherapy in Cancer[1]
Sarah Rowe-Conlon, Antibiotic Mechanism of Action, Chronic Relapsing Bacterial Infections, Antibiotic Tolerance
Celia Shiau, Neuroimmunology, Innate Immune Response, Tissue Macrophages, Microglia, CRISPR Engineering, Developmental Immunology, Genetics and Genomics, In Vivo Microscopy[1]
Benjamin Vincent (123), How Immunogenomics Features Including T-Cell Receptor and B-Cell Receptor Repertoire Characteristics Predict Survival and Response to Immunotherapy in Breast Cancer, Bladder Cancer, and Acute Myeloid Leukemia[1]
Matthew C. Wolfgang (89), Microbial Pathogenesis, Bacterial Gene Regulation, Host-Pathogen Interactions
David Zaharoff (119), Vaccine and Immunotherapy Delivery Platforms[1]

Assistant Professors

Janelle Arthur (113), Microbiota, Inflammation and Innate Immunity, Colorectal Cancer
Lisa Gralinski (48), Viral Pathogenesis, Respiratory Disease, Coronavirus, Virus-Host Interactions[1]
Indriati Hood-Pischany, Microbial Ecology of the Vaginal Microbiome, Microbiome-Focused Therapeutic Development[1]
Sarah Joseph (49), HIV-1 Evolution and Establishment of Reservoirs, HIV-1 Neuropathogenesis
Qingyun Liu
Ankit Malik, Mucosal Immunology, Host-Pathogen Interactions, Innate-Adaptive Immune Interactions
Brian Miller, Mechanisms of Tumor Response and Resistance to Immunotherapy; Myeloid Cells[1]
Justin Milner, Cancer Immunotherapy, T Cell Biology, Immune Responses to Viral Infections, Vaccination
Adam Rosenthal (53), Microbial Ecology, Phenotypic Heterogeneity in Bacteria, Microbial-Host Interactions
Deepika Sharma, Mucosal Immunity, Neuroimmune Interactions, Epigenetic Regulation of Gene Regulation
Tim Sheahan (54), Coronavirus Pathogenesis, Host-Pathogen Interactions, Antiviral Development[1]

Lance Thurlow (130), Host-Pathogen Interactions, Microbial Physiology and Immune Metabolism[1]
Ageliki Tsagaratou, Epigenetics, T Cell Differentiation and Function, Cancer[1]
Matthew Vogt (58), Viral Immunology, Antibodies, Acute Flaccid Myelitis, Enterovirus D68, Respiratory Viruses, Pathogenesis

Teaching Assistant Professors

Lorraine Cramer
Gina Donato

Research Associate Professors

Jamie Arnold, Mechanisms of RNA Virus Genome Replication and Antiviral Strategies Targeting Viral Enzymes
W. June Brickey, Host Immune Responses, Radiation Injury, Expression Profiling
Premkumar Lakshmanane, Structural Biology, Protein Engineering, Diagnostics Development, Drug Design, Antibacterial Discovery
Alessandra Livraghi-Butrico, Airway Mucosal Immunology[1]
Kimberly Walker, Microbial Pathogenesis, Bacterial Gene Regulation

Research Assistant Professors

Ed Browne (128), Virology, Immunology, HIV-1, Systems Biology, Single Cell Analysis[1]
Richard Johnson, Host-Pathogen Interactions, Protein Secretion, Molecular Analysis of Microbial Pathogenesis, Respiratory Infections
Mohamad Sotoudegan, Single-Cell Virology, Microfluidics, (Bio)MEMS
Shaomin Tian, Nanoparticle-Mediated Drug Delivery, Nano-Vaccine Formulation for Infectious Diseases and Cancer Immunotherapy
Shuntai Zhou, HIV Virology, Molecular Epidemiology, Bioinformatics, Data Science and Machine Learning

Professors Emeriti

Steven L. Bachenheimer
Janne G. Cannon
Susan A. Fiscus
Nancy C. Fisher
Jeffrey A. Frelinger
Peter H. Gilligan
William Goldman
Jean Handy
Clyde A. Hutchison III
Robert E. Johnston
David G. Klapper
Stanley M. Lemon
Virginia L. Miller
John E. Newbold
Joseph S. Pagano
Nancy Raab-Traub
Howard M. Reisner
P. Frederick Sparling
William J. Yount

Associate Professor Emeritus

Glenn Matsushima
Julie Nelson

[1] *joint faculty members*

MCRO

Advanced Undergraduate and Graduate-level Courses

MCRO 449. Introduction to Immunology. 3 Credits.
This course provides a general overview of the evolution, organization, and function of the immune system. Instruction will be inquiry-based with extensive use of informational and instructional technology tools.

Rules & Requirements
Requisites: Prerequisites, BIOL 205; or BIOL 103, BIOL 104, and BIOL 240; or permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.
Same as: BIOL 449.

MCRO 614. Immunobiology. 3 Credits.
A strong background in molecular biology, eukaryotic genetics, and biochemistry is required. Advanced survey course with topics that include molecular recognition, genetic mechanisms of host resistance, development of cells and cell interactions; hypersensitivity, autoimmunity, and resistance to infection. Course material from textbook and primary literature.

Rules & Requirements
Grading Status: Letter grade.

MCRO 630. Virology. 3 Credits.
Required preparation, coursework in molecular biology and cell biology. Current concepts of the chemistry, structure, replication, genetics, and the natural history of animal viruses and their host cells.

Rules & Requirements
Grading Status: Letter grade.

MCRO 631. Advanced Molecular Biology. 4 Credits.
This course explores cutting edge research in molecular biology -- the investigation at molecule-scale of the mechanisms behind life. We briefly review core-principles in molecular biology, then investigate more recent research that extends or overturns these core principles.

Rules & Requirements
Requisites: Prerequisites, BIOL 202, or BIOL 220, or CHEM 430, and permission of the course director.
Grading Status: Letter grade.
Same as: GNET 631, BIOC 631, BIOL 631.

MCRO 632. Advanced Molecular Biology II. 3 Credits.
Required preparation for undergraduates, at least one undergraduate course in both biochemistry and genetics. The purpose of this course is to provide historical, basic, and current information about the flow and regulation of genetic information from DNA to RNA in a variety of biological systems. Three lecture hours a week.

Rules & Requirements
Grading Status: Letter grade.
Same as: GNET 632, BIOC 632, BIOL 632.

MCRO 635. Microbial Pathogenesis I. 3 Credits.
Permission of the instructor. Required preparation, coursework in molecular biology and genetics. Topics will include aspects of basic bacteriology as well as bacterial and fungal pathogens and mechanisms of disease.

Rules & Requirements
Grading Status: Letter grade.

MCRO 640. Microbial Pathogenesis II. 3 Credits.
Permission of the instructor or a fundamental understanding of molecular virology and immunology. Molecular pathogenesis, with a primary focus on viral pathogens. Additional topics include vaccines and genetics of host-pathogen interactions.

Rules & Requirements
Grading Status: Letter grade.

MCRO 690. Special Topics in Microbiology or Immunology. 1-15 Credits.
Permission of the department except for department majors. Designed to introduce the student to research methods. Minor investigative problems are conducted with advice and guidance of the staff. Hours and credit to be arranged, any term. May be repeated for credit two or more semesters.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 15 total credits. 5 total completions.
Grading Status: Letter grade.

Graduate-level Courses

MCRO 701. Seminar in Microbiology and Immunology. 1 Credits.
Faculty and student seminars on current research in microbiology and immunology.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

MCRO 702. Seminar in Microbiology. 1 Credits.
Seminar on selected topics in microbiology.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

MCRO 705. Data and Molecular Visualization for Biomedical Research. 2 Credits.
This is an introductory course focused on methods to visualize scientific data and molecular structures. The course will include: R to visualize various biomedical data and generate multiple publication-ready figures and tables, phylogenetic analysis using R and other tools, and PyMol to visualize and analyze molecular structures and create images for publication. This course will also include a large codebase on using R and state-of-art packages to summarize and visualize various data types.

Rules & Requirements
Requisites: Prerequisites, Knowledge of introductory biochemistry and molecular biology is required; Previous experiences with R and PyMol are NOT necessary for attending this class; Personal computer with 1GB RAM (4GB recommended) and three-button mouse required.
Grading Status: Letter grade.

MCRO 710. Seminar/Tutorial in Bacterial and Eukaryotic Microbes. 1-15 Credits.
One or two faculty and a small number of students will consider current research of importance in depth. Emphasis is on current literature, invited speakers, etc., rather than textbooks.

Rules & Requirements
Repeat Rules: May be repeated for credit. 15 total credits. 15 total completions.
Grading Status: Letter grade.

MCRO 711. Seminar/Tutorial in Animal Virology. 1-15 Credits.
One or two faculty and a small number of students consider current research of importance in depth. Emphasis is on current literature, invited speakers, etc., rather than textbooks.

Rules & Requirements
Repeat Rules: May be repeated for credit. 15 total credits. 99 total completions.
Grading Status: Letter grade.

MCRO 712. Seminar/Tutorial in Immunology. 1-15 Credits.
One or two faculty and a small number of students consider current research of importance in depth. Emphasis is on current literature, invited speakers, etc., rather than textbooks.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

MCRO 721. Refresher Training in the Responsible Conduct of Research. 1 Credits.
MCRO 721 is a modular course that meets the requirements of the National Institutes of Health for refresher training in the Responsible Conduct of Research. The course involves a mixture of assigned readings, formal presentations by department faculty who are active in research, and small group discussions. The course grade is based on attendance and participation.

Rules & Requirements
Grading Status: Letter grade.

MCRO 730. Cancer Immunology. 2 Credits.
The goal of this graduate-level course is to learn about recent advances in the field, acquire specialized knowledge and to develop a foundation of critical thinking skills in cancer immunology. The course format will combine lectures and in-class discussion of assigned readings, with particular emphasis on state-of-the art research methods. Students should be familiar with modern concepts of immunology and should consult with the course director before enrolling. The course meets for half a semester.

Rules & Requirements
Grading Status: Letter grade.
Same as: PATH 730.

MCRO 790. Directed Readings in Prokaryotic Molecular Biology. 1 Credits.
Permission of the instructor or one prior prokaryotic molecular biology course. Directed readings in prokaryotic molecular biology under the direction of a member of the graduate faculty. May be repeated for credit.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

MCRO 791. Directed Readings in Virology. 1 Credits.
Permission of the instructor or one prior virology course. Directed readings in virology under the direction of a member of the graduate faculty. May be repeated for credit.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

MCRO 792. Directed Readings in Immunology. 1 Credits.
Permission of the instructor or one prior immunology course. Directed readings in immunology under the direction of a member of the graduate faculty. May be repeated for credit.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

MCRO 795. Research Concepts. 2 Credits.
Permission of the instructor. This course will provide multiple opportunities for the student to write parts of hypothesis-based proposals, receive substantial feedback, and to rewrite the text. There will be approximately twelve single-page writing assignments.

Rules & Requirements
Grading Status: Letter grade.

MCRO 901. Research in Microbiology or Immunology. 1-15 Credits.
Permission of the department. Designed to introduce the student to research methods and special techniques. Short-term problems are conducted with the advice and guidance of the staff. May be repeated for credit.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

MCRO 993. Master's Research and Thesis. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

MCRO 994. Doctoral Research and Dissertation. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

Contact Information

Department of Microbiology and Immunology
Visit Program Website (http://med.unc.edu/microimm/)

Chair
Craig E. Cameron

DEPARTMENT OF MUSIC (GRAD)

The department offers the degrees of master of arts (M.A.) in musicology and the doctor of philosophy (Ph.D.) in musicology, construing "musicology" in its broad sense to encompass the interrelated disciplines of music history, music theory, ethnomusicology, and studies of popular culture.

Special Facilities

Central to the departmental resources is the Music Library, which ranks high among the nation's music libraries for its scholarly editions, periodicals, early source materials, iconographic aids, microfilms, folk-music collections, and recordings as well as access to major music research databases and thousands of streamed audio and video recordings. In addition, the Southern Folklife Collection (SFC) is one of the nation's foremost archival resources for the study of American folk music and popular culture. SFC holdings extensively document all forms of southern musical and oral traditions across the entire spectrum of individual and community expressive arts, as well as mainstream media production.

Prerequisites for Degree Programs

The usual prerequisite for admission to graduate work leading to the M.A. and Ph.D. degrees is a bachelor of arts degree with a major in music, or a bachelor of music degree, comparable to those given at this university. Applicants for the graduate program must submit with their application samples of their recent writing on musical subjects. The graduate program is an integrated M.A.–Ph.D. program, constructed on the assumption that students will pursue the M.A. and Ph.D. in one continuous sequence: the M.A. is one of the required steps in earning the Ph.D.

Please note that applicants are no longer required to take the Graduate Record Examination (GRE).

Fellowships, Assistantships, and Other Student Aid

In addition to campus-wide grants, assistantships and special grants are available to selected graduate students in music. The deadline for all graduate applications is in December; a separate application for aid is not necessary but may be indicated on the general application form for admission to The Graduate School. Selected applicants are nominated for University-wide awards that range from $20,600 to $26,000. Teaching assistantships may be awarded by the department; these awards average $20,600 and usually include tuition remission for out-of-state students, payment of in-state tuition, and other benefits. For a full listing of the program's financial aid opportunities, please see the Department of Music's *Graduate Handbook*.

For the M.A. degree, students must demonstrate reading proficiency in one language other than English judged suitable to the scheme of study by the written consent of the director of graduate studies. Students may demonstrate proficiency in one of four ways:

1. By achieving a grade of B or better in a UNC–Chapel Hill fourth-semester (204) language course
2. By placing out of the fourth-semester language course through the placement examination given by the appropriate foreign language department
3. By passing the appropriate Foreign Language Proficiency Assessment offered through The Graduate School
4. Through petition overseen by the director of graduate studies

MUSC 750, Resources and Methods in Musicology, is required of all students in their first semester. Other courses are drawn from a range of offerings in the department. Graduate students have the option to include courses from other departments as part of a certificate program or toward the student's intellectual focus. Courses taken outside the department must be approved in advance by the director of graduate studies in music and by the departments concerned as directly relevant to a proposed course of study.

For the M.A. degree, students take courses totaling 30 credit hours and meet the M.A. Thesis Substitute requirement by the end of their third semester. Students meet the M.A. Thesis Substitute by enrolling in their MA advisor's section of the MA Thesis Substitute (MUSC 992) for three credits in fall semester of their second year. All students pursuing a master's degree take a written comprehensive examination; a final oral examination is not given.

At the conclusion of each spring semester a written examination is given to satisfy the requirements for the M.A. degree and to qualify students to continue toward the Ph.D. Students already in the department's M.A. program take the examination in the second year. Those who received the M.A. degree at another institution and had the requirements of the M.A. waived must take the examination in the spring of their first year of study.

As part of the completion of an additional 12 hours of seminars beyond the 30 hours required for the M.A. degree, students enroll in an independent study to prepare for the Ph.D. written examination at the end of their fifth semester (third for those with the M.A. requirements waived). By the end of the sixth semester of study (fourth semester for those with the M.A. requirements waived), students must take an oral examination on a proposed dissertation topic. They then register for at least two semesters of MUSC 994, Doctoral Dissertation, and MUSC 994's corequisite, MUSC 991, Dissertation Colloquium; complete the dissertation; and undergo a second oral examination in its defense.

More detailed explanation of these requirements appears in the Department of Music's *Graduate Handbook.*

Following the faculty member's name is a section number that students should use when registering for independent studies, reading, research, and thesis and dissertation courses with that particular professor.

Professors

Naomi André (57), Opera, Gender Studies, Music and Race
David Garcia (10), 19th- and 20th-Century Music, Americas, Cultural Studies, Historiography
Mark Katz (11), 20th- and 21st-Century Music, Music Technology, Hip Hop, Diplomacy
Jocelyn Neal (5), Music Theory and Analysis, Popular Music, Music of the American South

Associate Professors

Andrea Bohlman (14), East Central Europe, Sound Studies, History of Technology, Ethnographic Methods

Michael A. Figueroa (18), Middle East, Popular Music, Geography, Violence
Anne MacNeil (8), 16th- and 17th-Century Music, Music and Theater, Gender Studies, Historiography

Assistant Professor

Anna Gatdula (2), American Studies, Opera, Film, Cultural History, Critical Theory
Deonte Harris (3), Global Black Studies, African Diasporic Music Studies, Critical Race Studies

MUSC

Advanced Undergraduate and Graduate-level Courses

MUSC 471. Instrumental Performance Repertory. 3 Credits.
Advanced study of selected performance issues.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

MUSC 493. Music Internship. 3 Credits.
Permission of the director of undergraduate studies. Internship directly related to the study, practice, or the business of music. Students must complete at least 100 hours and submit a journal and report upon completion of the internship. No more than three credit hours may count toward the requirements of the music major. Excess hours may count as credit hours toward graduation, subject to the overall limit on music hours.

Rules & Requirements
IDEAs in Action Gen Ed: HI-INTERN.
Repeat Rules: May be repeated for credit. 9 total credits. 3 total completions.
Grading Status: Pass/Fail.

MUSC 676. Digital Media and Live Performance. 3 Credits.
Permission of the instructor for undergraduates. Intended for students from various majors, this course provides a foundation in the history, theory, and practice of developing live, technologically-intensive, multimedia performance works. The course analyzes new media masterworks, addresses techniques of interdisciplinary collaboration, and offers workshops in specific software/technology applications.

Rules & Requirements
Grading Status: Letter grade.
Same as: COMM 676.

MUSC 691H. Senior Honors Thesis in Music I. 3 Credits.
Admission by permission of the honors advisor. Independent study by a student who has been designated a candidate for undergraduate honors in music.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

MUSC 692H. Senior Honors Thesis in Music II. 3 Credits.
Continuance and completion of an honors thesis in music.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Requisites: Prerequisites, MUSC 691H.
Grading Status: Letter grade.

Graduate-level Courses

MUSC 750. Resources and Methods of Musicology I. 3 Credits.
Introduction to the field of musicology, including its scope, methodology, and bibliography. Taught in three-week modules, each directed by a different member of the academic faculty. Individual modules will include music history, music theory, ethnomusicology, music aesthetics, and cultural studies.

Rules & Requirements
Grading Status: Letter grade.

MUSC 751. Resources and Methods of Musicology II. 3 Credits.
When offered, continuation of MUSC 750.

Rules & Requirements
Grading Status: Letter grade.

MUSC 830. Proseminar in Music Theory. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

MUSC 850. Proseminar in Musicology. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

MUSC 870. Proseminar in Ethnomusicology. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

MUSC 890. Special Studies. 3 Credits.
The faculty assists and advises graduate students in work on particular research projects. Available to musicology graduate students only (M.A.T. students taking special studies must register under MUSC 471).

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

MUSC 930. Seminar in Music Theory. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

MUSC 950. Seminar in Musicology. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

MUSC 970. Seminar in Ethnomusicology. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

MUSC 991. Dissertation Colloquium. 1.5 Credits.
Forum for group discussion of on-going dissertation work and professional development.

Rules & Requirements
Requisites: Co-requisite, MUSC 994.
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

MUSC 992. Master's (Non-Thesis). 3 Credits.
MUSC 992 is required for all graduate students enrolled in the MA/PhD program in Musicology. Graduate students should take this course in fall semester of their second year of completing the program's MA requirements. Required assignments will teach skills that are key for successful completion of the PhD.

Rules & Requirements
Requisites: Prerequisites, Students registering for MUSC 992 under their instructor's section number should have successfully completed 18 credit hours of graduate seminar and met the program's foreign language requirement.
Repeat Rules: May be repeated for credit.

MUSC 993. Master's Research and Thesis. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

MUSC 994. Doctoral Research and Dissertation. 3 Credits.
Rules & Requirements
Requisites: Co-requisite, MUSC 991.
Repeat Rules: May be repeated for credit.

Contact Information

Department of Music
Visit Program Website (http://music.unc.edu)

Chair
Jocelyn Neal

Associate Chair for Academic Studies
Michael Figueroa

Director of Graduate Studies
David Garcia

NEUROSCIENCE (GRAD)

The Neuroscience Curriculum at the University of North Carolina at Chapel Hill is a broadly based interdisciplinary graduate training program in the neurosciences. With strong research funding and a long and successful training history, the curriculum ranks among the best programs in the country.

The program has 85 primary faculty members who can serve as dissertation advisors. Research opportunities in the curriculum are supported by the presence of an active neuroscience community at UNC–Chapel Hill. This community includes members of every basic science department in the School of Medicine, members of many clinical departments, as well as several departments in the College of Arts and Sciences. University research and clinical centers with a neuroscience component also contribute to the vibrant and active community that makes neurobiology a major intellectual focus at UNC–Chapel Hill.

The Neuroscience Curriculum enrolls an average of 45 students at different levels of training at any given time; typically, eight to twelve students are accepted each year depending on available funding. A portion of the students in the curriculum are supported during their first and/or second years by a long-standing training grant funded through NINDS, and in subsequent years by either their mentor's research grants or individual fellowships. The average time to graduation is 5.3 years.

Neuroscience is by its very nature an interdisciplinary endeavor, and at UNC–Chapel Hill the neuroscience curriculum provides a broadly structured training curriculum and research environment that spans the range from genetic studies of the nervous system through the complexities of human cognitive function.

Applicants are urged to complete their applications through BBSP (http://bbsp.unc.edu/admissions/) by early December.

Courses required for the Ph.D. degree in neuroscience include Molecular and Cellular Neuroscience (NBIO 722 Fall) and Systems and Translational Neuroscience (NBIO 723 Spring). Students are expected to enroll in ***both*** semesters of this course sequence.

The purpose of the course in Molecular and Cellular Neuroscience is to explore the experimental and theoretical basis for current concepts of nervous system function. The course runs as a series of three blocks in the fall semester and three blocks in the spring semester. This is NOT a survey course in neuroscience. The goals of the course are not so much to inform as to foster an understanding of how we accumulate our knowledge and hypotheses, not to provide a complete textbook picture of the functioning nervous system as we currently know it but to provide the intellectual tools and skills to evaluate current and future hypotheses, not so much to provide answers to questions as to attempt to define the unanswered questions.

Block 1 (NBIO 722 Fall) – Neuroscience Bootcamp: Introduction to Techniques Used in Studying the Nervous System/Electrical Signaling (~19 sessions) Because students taking the core course have diverse backgrounds, this block is divided into two sections.

Block 1a – Neuroscience Bootcamp: Introduction to Techniques Used in Studying the Nervous System (~9 sessions). The first block serves as an introduction to neuroscience as well as an overview of many of the techniques students will encounter while reading materials and papers for the rest of the course. Examples of topics covered include statistics and hypothesis testing, molecular biology and genetic engineering, confocal microscopy, and functional anatomy of the rodent brain. Fall. Jensen, Itano, S. Cohen, Brenman.[1]

Block 1b – Electrical Signaling (~10 sessions). This block introduces materials related to electrical excitability of neurons. Topics include ion channels, membrane potentials, generation and propagation of action potentials, dendritic excitability, and computational neuroscience as it relates to electrical signaling of neurons. Fall. Frohlich, Kato, Kasten, Manis.[1]

Block 2 – Synaptic Mechanisms (~10 sessions). This block focuses on synaptic mechanisms of neurotransmitter release and termination of signaling, as well as intracellular signaling cascades that are regulated by synaptic transmission. Topics include electrophysiological and molecular analysis of neurotransmitter release, short-term plasticity in neurotransmitter release, synaptic plasticity, calcium signaling and regulation of intracellular signaling cascades, and gene expression. Fall. Philpot, Reissner[1], McElligott, Dudek.

Block 3 – Receptors (~10 sessions). This block focuses on neurotransmitter signaling through distinct receptor subclasses. Topics include G-protein coupled receptors and associated signaling, receptor binding theory, ionotropic and metabotropic glutamate and GABA receptors, receptor trafficking and localization. Fall. McElligott, Herman, Scherrer, Diering[1].

Block 4 – Development of the Nervous System (NBIO 723 Spring) (~11 sessions). This block focuses on molecular mechanisms of neuronal development and their relation to disease. Topics include neurogenesis, neural stem cells, molecular control of axonal guidance and neuronal migration, and cell and synaptic adhesions molecules. Spring. Shiau, Maness, Anton, Deshmukh, Gupton, Song[1], Stein.

Block 5 – Anatomy and Function of Sensory and Motor Systems (~17 sessions). This block focuses on the neural circuitry that comprises sensory and motor systems. Topics include organization and function of the retina and visual cortex, mechanosensation, genetically defined circuits for nociception, organization and function of somatosensory cortex, motor cortex, basal ganglia neural circuitry, and cerebellar organization and function. Spring. Zylka,[1] Manis, Fitzpatrick, Snider, Weiss, Cheney.

Block 6 – Neurobiology of Disease (~12 sessions). This block focuses on the neurobiological underpinnings of disease. For each topic the disease and its impact on society is introduced, and then detailed discussions of the molecular, genetic underpinnings and circuit and behavioral consequences of the disorder are presented. Topics include epilepsy, addiction, fear and anxiety circuitry, schizophrenia, autism, Alzheimer's disease, and Parkinson's disease. This block also includes two classes devoted to human neuroimaging methods such at fMRI and DTI. Spring. Gilmore, Cohen[1], Ditcher, Stein, Zylka.

[1] *denotes the head of the block*

Communication of Scientific Results Neurobiology (NBIO 850)
The class teaches the principles for giving effective talks. The course also covers how to introduce speakers, prepare slides, and speak with the public about science. Spencer Smith currently directs the course, with additional faculty members participating in each class. The class is limited to Neuroscience Curriculum students. Students prepare talks, refine them in small groups (three to four students), and then present them in class. The in-class talk is videotaped, and these tapes are reviewed by the students in a session with their peers. After another

round of refining their talks with their small group, the students give their polished talks to the department in a formal setting. Writing is critiqued in class, with peers and guest faculty members all offering input. The videotaped reviews and peer critiques help tremendously to teach effective speaking and writing methods in NBIO 850 (a.k.a. PClass); thus, preparing students for the next stage in their scientific careers. Fall. Song, Phanstiel.

Neuroanalytics (NBIO 750)
The purpose of this course is to provide both practical and theoretical training in advanced data analysis approaches commonly used in neuroscience research. Over the past 10 years there has been a dramatic shift within the field from relatively simple data analysis approaches such as calculating means and standard errors of grouped data, to now performing complex analysis on higher dimensional datasets to uncover unappreciated features. The material in this course should be immediately useful to any student who is working with modern data collected in neuroscience, from sequencing, electrophysiology, imaging, biochemistry, and behavior. The concepts in the course will be taught through programming in python. While understanding mathematical concepts behind analysis is important, we will largely focus on the big picture and try to illustrate concepts by emphasizing graphical representations of how datasets are treated with these approaches. Throughout the course, we will utilize real-world neuroscience data from a variety of sub-disciplines as examples, and also focus on teaching the implications and limitations of the approaches we cover. At the end of the course, students should have a solid foundation of scientific computing, which will prepare them to independently conduct analysis of their own data or prepare them for more advanced courses. Spring even numbered years. Stein.

Neuroscience Seminar Series (NBIO 893)
Diverse but current topics in all aspects of neuroscience. Relates new techniques and current research of notables in the field of neuroscience. Content focuses on presentations by invited, non-UNC faculty, UNC faculty, and mini-series presentations from current neuroscience students. Topics vary from week to week. Students in the curriculum are expected to attend and participate in the neuroscience seminar series, and in particular year 2 and 3 students will be enrolled in NBIO 893 each semester, for which their attendance and participation in seminars and dissertation defenses is tracked and graded. Fall and spring. Brenman.

On the curriculum's website, the courses menu lists descriptions of the core courses of the neuroscience curriculum; other selected offerings are shown under the electives menu. Additional elective courses in biochemistry, statistics, molecular biology, physiology, etc., are available to compensate for specific deficiencies or enhance training. It is the current philosophy of the curriculum faculty that students should receive a broad exposure to as many aspects of neuroscience as reasonable, from molecules and genetics through systems, behavior, and human diseases of the nervous system.

The following is a partial list of courses that neuroscience students may consider for their elective requirements.

Microscopy (NBIO 731)

Special Topics in Neuroscience: The Methods in Genetic Engineering (NBIO 890-002)

Special Topics in Neuroscience: Network Neuroscience (NBIO 890-003)

Developmental Neuroscience (NBIO 724)

Neural Information Processing (NBIO 729)

Introductory Statistics for Laboratory Scientists (BBSP 710)

Gene Brain Behavior Interactions in Neurodevelopmental Disorders: Towards an Integration of Perspectives on Disease Mechanisms (NBIO 800)

Clinical Syndromes and Neurodevelopmental Disorders (NBIO 801)

Neurocircuits and Behavior Journal Club (NBIO 733)

Biological Bases of Behavior I (PSYC 701)

Biological Bases of Behavior II (PSYC 702)

Translational Seminar in Cognitive and Clinical Neuroscience (NBIO 727)

Neuropharmacology of Alcohol and Substance Abuse (PHCO 728)

Principles of Statistics Infer (BIOS 600)

Research Ethics (GRAD 721)

Seminar in the Biological Foundations of Psychology (PSYC 708)

Statistical Methods in Psychology (PSYC 830)

Neuroscience, Ph.D.

The Neuroscience Curriculum (NBIO) stresses a multi-disciplinary approach to the study of the brain. There are more than 80 faculty members in 12 departments and 5 specialized research centers participate in this interdisciplinary program. The Curriculum facilitates communication between these neuroscientists across departmental barriers in order to:

- Provide PhD training that incorporates a broad interdisciplinary background.
- Provided opportunities for thesis work in laboratories representing the full spectrum of modern neuroscience research.
- Promote the very latest technical approaches.
- Facilitate collaborative, interdisciplinary and translational research.

We also encourage increased communication and interactions among neuroscientists at UNC and neighboring institutions (Duke University, North Carolina State University, National Institute of Environmental Health Service (NIEHS) and North Carolina Central University) by sponsoring seminars, symposia, journal clubs, and conferences. Finally, NBIO strongly supports and fosters the exposure to a broad range of potential careers through the (Training Initiatives in Biomedical and Biological Sciences) TIBBS Program (http://tibbs.unc.edu/). TIBBS and other career development programs (https://www.med.unc.edu/neuroscience/curriculum/career-development/) offer information, seminars, workshops and individual guidance for all biomedical career options, including academic, government, pharmaceutical and scientific publishing.

Course Requirements

Code	Title	Hours
Core Courses		
NBIO 722	Cellular and Molecular Neurobiology	6
NBIO 723	Cellular and Molecular Neurobiology	6

NBIO 750	Neuroanalytics: Introduction to Big Data Science for Neuroscientists [1]	4
NBIO 850	Improving Presentation & Communication of Scientific Results	2
NBIO 893	Neuroscience Seminar Series [2]	4
BBSP 710	Biostatistics for Laboratory Scientists [3]	2
CBPH 895	Responsible Conduct of Research (RCR) [4]	1
Electives		
Students must complete at least two elective courses. Select from the elective course options below or any 500+ level STEM field course - usually 2 or more units. Check with DGS. [5]		4+
Thesis/Substitute or Dissertation		
NBIO 994	Doctoral Research and Dissertation [6]	6
Minimum Hours		**25**

1. This is only required for students on the T32 and counts as one of their electives.
2. This 1-credit course must be taken four times for a total credit of 4.
3. This course can be substituted with a higher level statistics or modeling course (advanced statistics/modeling/computer science substitute 700+; STOR/COMP 500+) - check with DGS when substituting.
4. Students should take CBPH 895 in the Fall of their fourth year.
5. Students on the T32 are required to take NBIO 750 which satisfies one of the elective requirements.
6. Students must take NBIO 994 twice for a minimum of 6 credit hours.

Code	Title	Hours
Neuroscience Elective Course Options		
CBPH 706	Communicating Scientific Results	1
NBIO 710	Advanced Light Microscopy	3
NBIO 727	Translational Seminar in Cognitive and Clinical Neuroscience	2
NBIO 729	Sensory Neural Information Processing and Representation	3
NBIO 750	Neuroanalytics: Introduction to Big Data Science for Neuroscientists	4
NBIO 751	Neurodevelopmental Basis of Brain Disorders	2
NBIO 800	Gene-Brain-Behavior Interactions in Neurodevelopmental Disorders: Perspectives on Disease Mechanisms	3
NBIO 801	Clinical Syndromes and Neurodevelopmental Disorders	3
NBIO 890	Special Topics in Neurobiology	2
PSYC 702	Brain & Behavior II	3
PSYC 708	Research Design and Statistics in Neuroscience	3
PSYC 830	Statistical Methods in Psychology I	4
PHCO 728	Neuropharmacology of Alcohol and Substance Use	3
PHCO 744	Topics on Stem Cells and Development	2
PHCO 750	Proteomics Methods and Applications	1
BIOS 600	Principles of Statistical Inference	3

Milestones

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 27) for more information.

- Doctoral Committee
- Doctoral Oral Comprehensive Exam
- Doctoral Written Exam
- Prospectus Oral Exam
- Advanced to Candidacy
- Dissertation Defense
- Doctoral Dissertation Approved/Format Accepted
- Preliminary Written Exam
- Residence Credit
- Doctoral Exit Survey

Professors

Eva Anton, Neural Circuitry in the Cerebral Cortex
Aysenil Belger, Cortical Circuits Underlying Attention and Executive Function in the Brain
Joyce Besheer, Neurobiological Mechanisms Underlying Alcoholism and Addiction
Charlotte Boettiger, Neurobiological Mechanisms of Executive Function Irregularities in Addiction
Jay Brenman, AMP-Activated Protein Kinase (AMPK) Plays a Central Role in Energy Balance/Metabolism
Regina Carelli, Brain Reward Processes
Richard Cheney, Fundamental Cell Biology Unconventional Myosins, Filopodia, and Motility
Fulton Crews, Molecular Aspects of Neuronal Vitality and Alcohol
Mohanish Deshmukh, Mechanisms of Apoptosis Regulation in Neurons, Stem Cells, and Cancer Cells
Gabriel Dichter, Understanding and Improving Treatments for Neurodevelopmental and Neuropsychiatric Disorders
Serena Dudek (NIEHS), Connections in the Brain (Synapses) Change in Response to Activity
Flavio Frohlich, Cortical Networks Generate Physiological, Pathological Activity States
Rebecca Fry, Environmental Exposures Associated with Human Disease, Focusing on Genomic and Epigenomic Perturbations
John Gilmore, Human Brain Development, Immune Regulation of Neurodevelopment, Schizophrenia
Kelly Giovanello, Exploring the Cognitive and Neural Processes Mediating Memory in Young Adults
Elizabeta Gjoneska, Neuroepigenomics and Neurodegeneration
Stephanie Gupton, Coordination and Regulation of Cytoskeletal Dynamics and Membrane Trafficking
Klaus Hahn, Understand Cell Behaviors Mediated by Structural Dynamics
Shawn Hingtgen, Stem Cells, Treatment of Terminal Cancers, Brain Cancer
Clyde Hodge, Neurobehavioral Pharmacology and Pharmacogenomics of Addiction
Joseph Hopfinger, Cognitive Psychology and Perception
Patricia Jensen (NIEHS), Genetic and Environmental Perturbations During Development
Tom Kash, Synaptic Transmission and Plasticity
Kristen Lindquist, Nature of Emotion
Julieta Lischinsky, Neurobehavioral Circuits
Donald Lysle, Neuroimmunology, Learning Processes
Patricia Maness, Cell Adhesion and Signal Transduction in Developing Neurons
Paul Manis, Cellular Basis of Auditory Information Processing in Brainstem and Cortex
Rick Meeker, Neuroendocrine Regulation, Glutamate Receptors, Mechanisms of AIDS Dementia

Mark Peifer, Cell Adhesion, Signal Transduction, and Cytoskeletal Regulation in Development and Disease
Benjamin Philpot, Modification of the Cerebral Cortex by Sensory Experience
Joseph Piven, Pathogenesis of Autism, Genetic Basis, and Neuropsychological and Behavioral Phenotype
Donita Robinson, Chemistry and Physiology of the Nucleus Accumbens
Bryan Roth, GPCR Structure and Function, Drug Discovery
David Rubinow, Neurobehavioral Effects of Gonadal Steroids, Behavioral Responses to Changes in Steroid Signaling
Soma Sengupta, Neuro-Oncology and Brain Tumor Treatment
Yen-Yu Ian Shih, Developing and Applying Innovative MRI Technologies in Neurovascular Functions of the Brain
Juan Song, Adult Neurogenesis Function and Regulation
Martin Styner, Medical Imaging Analysis
Lisa Tarrantino, Genes That Increase Risk for Psychiatric Disorders
Todd Thiele, Neurobiology of Alcoholism
Jenny Ting, Use of Murine Models in the Regulation of Inflammatory Genes in Demyelination and Remyelination
Richard Weinberg, Organization of the Postsynaptic Density, Calcium Sources and Actin-Binding Proteins in Spines
Ellen Weiss, Regulation of G-Protein Signaling Pathways, Visual Signal Transduction
Sammuel M. Young, Jr., Gene Therapy and Auditory Processing
Mark Zylka, Molecules and Mechanisms for Pain

Associate Professors

Todd Cohen, Alzheimer's Disease, Frontotemporal Dementia, Amyotrophic Lateral Sclerosis
Eran Dayan, Brain Connectivity, Functional Neuroimaging
Sylvia Fitting, Structural and Functional Consequences of Behavior and Neurocognition in Disease
Doug Fitzpatrick, Neuronal Bases of Sound Localization Performance
Adam Hantman, Neural Networks and Motor Control
Erin Heinzen, Neurodevelopment Disease Genetics
Melissa Herman, Inhibitory Microcircuitry Governing Network Function in Motivated Behaviors
Hiroyuki Kato, Neural Encoding of Complex Auditory Stimuli
Michael Love, Computational/Biostatistical Methods for Biomedical/Biological Research
Zoe Mcelligott, Mechanisms That Underlie Affective Disorders — Anxiety, Depression and Substance Abuse
Kathryn Reissner, Chronic Self-Administration of Cocaine, Neuronastrocyte Communication, Long-Term Drug Seeking
Kim Ritola, Optimization of Viral Tools (NeuroTools) for Brain Development and Disease
Gregory Scherrer, Pain and Opioids
Celia Shiau, Genetic, Cellular and Developmental Systems for Vertebrate Biology
Jason Stein, Genetic Effects on Multiple Aspects of the Human Brain
Hyejung Won, Genetic Risk Factors for Psychiatric Illnesses and Neurobiological Mechanisms

Assistant Professors

Katie Baldwin, Function and Development of Glial Cells
Alana Campbell, Cognitive Control and Emotional Processes
Jiakun Chen, Astrocyte Development and Function
Daniel Christoffel, Behavioral Impacts on Brain Function and Adaptation
Jessica Cohen, Functional Brain Networks Interaction When Confronted with Changing Cognitive Emands
Sarah Cohen, Lipid Trafficking
Leon Coleman, Alcohol Use Disorders and Pathologies
Graham Diering, Molecular Mechanisms of Sleep Function Impact on the Brain
Toshi Hige, Mechanisms of Behavioral Responses in Regards to Synaptic Plasticity, Neural Circuit and Behavior
Michelle Itano, Microscopy Optimization for Visualizing Living Networks
Shahzad S. Khan, Molecular Basis of Neurodegeneration
Robert G. Mealer, Protein Glycosylation and Psychiatric Disorders
Scott Parnell, Effects of Drug Abuse During Early Development and the Underlying Mechanisms of Birth Defects
Nicolas Pegard, Computational Optics, Imaging Systems, Optical Instrumentation, and Digital Interfaces
Jose Rodriguez-Romaguera, Neuronal Circuits that Drive Hyperarousal
Mark Shen, Neurodevelopmental Disorders
Ryan P. Vetreno, Neuroimmune and Epigenetic Mechanisms in Disease Models
Jessica Walsh, Molecular and Circuit Understanding of Behavior
Morika D. Williams, Molecular Mechanisms of Neurophysiological Pain Processing
Guorong Wu, Developing Computational Tools for Understanding Brain Pathology
Amol Yadav, Brain-Spine-Machine Interfaces
En Yang, Distributed Computations for Learning and Memory
Anthony Zannas, Epigenetic Changes and How They Contribute to Stress-Related Somatic and Behavioral Phenotypes

NBIO

Advanced Undergraduate and Graduate-level Courses

NBIO 411. Neurobiology Laboratory Apprenticeship. 1-21 Credits.
Rules & Requirements
Grading Status: Letter grade.

NBIO 412. Neurobiology Laboratory Apprenticeship. 1-21 Credits.
Rules & Requirements
Grading Status: Letter grade.

NBIO 450. Tutorial in Neurobiology. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.

Graduate-level Courses

NBIO 701A. Brain & Behavior I. 3 Credits.
Graduate standing required. A survey of psychological and biological approaches to the study of sensory and perceptual information processing, with an emphasis on touch and pain.

Rules & Requirements
Grading Status: Letter grade.
Same as: PSYC 701.

NBIO 702A. Brain & Behavior II. 3 Credits.
A survey of psychological and biological approaches to the study of basic learning and higher integrative processing.

Rules & Requirements
Grading Status: Letter grade.
Same as: PSYC 702.

NBIO 703. Advanced Biological Psychology: Central Nervous System. 3 Credits.
Each fall one special topic will be covered in depth (e.g., neural bases of memory storage, homeostasis, and perception). Format includes lectures and seminar meetings with student presentations.

Rules & Requirements
Requisites: Prerequisite, PSYC 402.
Grading Status: Letter grade.
Same as: PSYC 703.

NBIO 704. Applications of Experimental Psychology to Health Research. 3 Credits.
This course provides a critical analysis of interdisciplinary research within experimental psychology, including such topics as psychopharmacology, psychoneuroimmunology, psychophysiology, and animal models of brain/behavior disorders.

Rules & Requirements
Grading Status: Letter grade.
Same as: PSYC 704.

NBIO 705. Behavioral Pharmacology. 3 Credits.
Basic principles of pharmacology and behavior analysis are considered in relation to drugs that affect the central nervous system.

Rules & Requirements
Requisites: Prerequisite, PSYC 404; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Same as: PSYC 705, PHCO 705.

NBIO 708. Research Design and Statistics in Neuroscience. 3 Credits.
Limited to graduate students in psychology, neuroscience, and neurobiology. Experimental design, hypothesis testing, power analyses, ANOVAs, regression, correlations. Hands on data analysis with you being able to use your own data sets. Analyses will be conducted with SPSS and Prism. Permission of the instructor.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.
Same as: PSYC 708.

NBIO 710. Advanced Light Microscopy. 3 Credits.
An intensive and comprehensive hands-on laboratory-oriented course in light microscopy for researchers in biology, medicine, and materials science. This course will focus on advanced quantitative fluorescence microscopy techniques used for imaging a range of biological specimens, from whole organisms, to tissues, to cells, and to single molecules. This course emphasizes the quantitative issues that are critical to the proper interpretation of images obtained with light microscopes.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 1 total completions.
Grading Status: Letter grade.
Same as: CBPH 710, PATH 710.

NBIO 721. Directed Studies in Oral Biology. 1 Credits.
Topics include extracellular matrices, immunology, inflammation, neurobiology, and pain management.

Rules & Requirements
Grading Status: Letter grade.
Same as: OCBM 723.

NBIO 722. Cellular and Molecular Neurobiology. 6 Credits.
Introduces topics including brain cell biology, molecular biology applied to neurons, membrane potentials and imaging methods. The second block introduces such topics as resistance, capacitance, passive membranes, classes of ion channels, potassium and calcium channels, and action potential initiation. Final blocks, focus on neurotransmitter release and signaling through distinct receptor subclasses. Topics include G-protein coupled receptors and associated signaling, receptor binding/ligand theory, ionotropic and metabotropic glutamate and GABA receptors, receptor trafficking and localization. Permission of the department.

Rules & Requirements
Grading Status: Letter grade.

NBIO 722A. Cellular and Molecular Neurobiology: Introduction and Electrical Signaling. 2 Credits.
Permission of the department. This course explores the experimental and theoretical function of the nervous system. Typically, the first hour is fundamental material presentation and the second hour may be a presentation led by the students. Topics covered include: cellular diversity in the CNS, gross brain anatomy, human and rodent brain imaging, neuromolecular genetics, behavioral methods, membrane potentials/resistance/capacitance, ion channel structure, electrophysiology and propagation of electrical signals in neurons. Basic undergraduate biology, chemistry, physics and intro calculus is assumed.

Rules & Requirements
Grading Status: Letter grade.
Same as: BIOC 722A, PHCO 722A.

NBIO 722B. Cellular and Molecular Neurobiology: Postsynaptic Mechanisms-Receptors. 2 Credits.
Permission of the department. Consideration of membrane receptor molecules activated by neurotransmitters in the nervous system with emphasis on ligand binding behavior and molecular and functional properties of different classes of receptors. Course meets for four weeks with six lecture hours per week.

Rules & Requirements
Grading Status: Letter grade.
Same as: BIOC 722B, PHCO 722B.

NBIO 723. Cellular and Molecular Neurobiology. 6 Credits.
Block one covers neural stem cells, glial development, neural cell death and neurotrophin. The second block introduces the sensory pathways of vision, audition, taste, olfaction, pain, and touch, and the motor pathways of the spinal cord, basal ganglia, cerebellum, and motor cortex. Includes sensory information processing, motor execution, peripheral and central mechanisms of pain. Final block covers CNS imaging, regeneration, and such diseases as Alzheimer's, ALS, Parkinson's, epilepsy, addiction, autism, and schizophrenia. Permission of the department required.

Rules & Requirements
Grading Status: Letter grade.

NBIO 724. Developmental Neurobiology. 2 Credits.
A survey of nervous system development emphasizing detailed analysis of selected research topics such as neuronal induction, neural crest development, neuronal differentiation, synapse formation, neurotrophic factors, glial development, and the effects of experience.

Rules & Requirements
Requisites: Prerequisite, NBIO 722; Permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

NBIO 725. Experimental Neurophysiology. 3 Credits.
Permission of the instructor. Six or more laboratory hours a week.

Rules & Requirements
Grading Status: Letter grade.

NBIO 727. Translational Seminar in Cognitive and Clinical Neuroscience. 2 Credits.
Introduces new neuroimaging techniques and their application to the study of neural correlates of cognitive and behavioral impairments in brain disorders. Reviews the theories and research methodologies that investigate how brain functions support and give rise to mental operations such as attention, memory, emotions, social cognition in the healthy brain.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

NBIO 728. Diseases of the Nervous System. 2 Credits.
Explores the basic neurobiology and the clinical aspects of a range of diseases of the nervous system, including ALS, Alzheimer's, autism, schizophrenia, multiple sclerosis, deafness, epilepsy, pain, brain tumors, stroke, Parkinson's, and other neurodegenerative diseases.

Rules & Requirements
Requisites: Prerequisites, NBIO 201, or 722 and 223.
Grading Status: Letter grade.

NBIO 729. Sensory Neural Information Processing and Representation. 3 Credits.
Additional required preparation, one year of calculus, familiarity with MATLAB or Python, or permission of the instructor. A discussion/reading seminar covering the fundamentals of nervous system information processing and integration, with examples from sensory systems.

Rules & Requirements
Requisites: Prerequisites, NBIO 722 and 733.
Grading Status: Letter grade.

NBIO 731. Microscopy: Principles & Applications. 2 Credits.
This course aims to provide the knowledge one may need to understand the reach of microscopy imaging techniques, to be able to choose the right imaging modality, label the sample, carry out the experiment, analyze data, troubleshoot any pitfalls that may occur, and put together a custom optical setup.

Rules & Requirements
Grading Status: Letter grade.

NBIO 732. Biological Concepts. 1.5 Credits.
Overview of structures and biological determinants of conditions and diseases of the oral cavity. Both growth and development and pathophysiology will be introduced in the context of three areas of oral biology: biology of extracellular matrices, host-pathogens interactions, and orofacial neurobiology.

Rules & Requirements
Grading Status: Letter grade.
Same as: OCBM 732, PHCO 747.

NBIO 733. Neurocircuits and Behavior Journal Club. 1 Credits.
This is journal club course will meet once per week for 90 minutes to discuss new research papers focused on delineating how neurocircuits function to orchestrate various behavioral states. Papers for discussion will be chosen by the instructor and students, and students will rotate in leading discussions.

Rules & Requirements
Requisites: Prerequisites, NBIO 722 and 723.
Grading Status: Letter grade.

NBIO 735. Seminar in Chemical Neurobiology. 2 Credits.
Required preparation, two semesters of biochemistry.

Rules & Requirements
Grading Status: Letter grade.

NBIO 750. Neuroanalytics: Introduction to Big Data Science for Neuroscientists. 4 Credits.
The purpose of this course is to provide both practical and theoretical training in advanced data analysis approaches commonly used in neuroscience research. Making biological insights into complex neuroscience data requires familiarity with computer programming, distributed computing, visualization, and statistics. This course aims to provide an introduction to these analysis techniques to make the aspiring neuroscientist comfortable with data science.

Rules & Requirements
Requisites: Prerequisites, NBIO 722 and 723.
Grading Status: Letter grade.

NBIO 751. Neurodevelopmental Basis of Brain Disorders. 2 Credits.
The basic principles guiding in the formation and maintenance of human nervous system and how do distinct genetic/ epigenetic disruptions during development cause different types of human neurodevelopmental disorders. The intent of this course is to present latest advances in developmental neuroscience in the context of this theme. Topics covered IMII include neural patterning, neurogenesis, neural cell ate specification, neuronal migration, axon/dendritic growth and connectivity.

Rules & Requirements
Grading Status: Letter grade.

NBIO 800. Gene-Brain-Behavior Interactions in Neurodevelopmental Disorders: Perspectives on Disease Mechanisms. 3 Credits.
This seminar examines the topics of genetics, neuroanatomy, physiology, and behavioral development to provide a broad-based and integrated background to understand the etiology and potential mechanism underlying neurodevelopmental disorders.

Rules & Requirements
Grading Status: Letter grade.

NBIO 801. Clinical Syndromes and Neurodevelopmental Disorders. 3 Credits.
This seminar will review the epidemiology, pathogenesis, diagnosis and treatment of neurodevelopmental syndromes and disorders. Topics will range from single gene (e.g. fragile X syndrome and tuberous sclerosis) to complex genetic (e.g., autism, schizophrenia), to environmental disorders with varied phenotypes, pathogenetic mechanisms, and treatments.

Rules & Requirements
Grading Status: Letter grade.

NBIO 850. Improving Presentation & Communication of Scientific Results. 2 Credits.
Learning modern day techniques and approaches to convey scientific results effectively as a public speaker. Teaching how to implement the key aspects of effective presentation of scientific findings in public settings. Understanding the key components of an effective public talk including scientific content, body language, and voice. Learning how to captivate the target audience and yet still convey data driven scientific findings.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.
Same as: CBPH 705.

NBIO 857. Seminar in Comparative Animal Behavior. 1-2 Credits.
Permission of the instructor. Advanced seminar in comparative animal behavior. May be repeated for credit.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.
Same as: BIOL 857.

NBIO 858. Seminar in Comparative Physiology. 1-2 Credits.
Advanced seminar in comparative physiology.

Rules & Requirements
Requisites: Prerequisite, BIOL 451; permission of the instructor for students lacking the prerequisite.
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.
Same as: BIOL 858.

NBIO 890. Special Topics in Neurobiology. 1-5 Credits.
Special topics in neurobiology. Content will vary from semester to semester.

Rules & Requirements
Grading Status: Letter grade.

NBIO 892. Special Topics in Physiology. 1-5 Credits.
Permission of the instructor. Individually arranged in-depth programs of selected topics such as membrane function, transport physiology, renal physiology, etc.

Rules & Requirements
Grading Status: Letter grade.

NBIO 893. Neuroscience Seminar Series. 1 Credits.
Diverse but current topics in all aspects of neuroscience. Relates new techniques and current research of notables in the field of neuroscience. Content focuses on presentations by invited, non-UNC faculty, UNC faculty and mini-series presentations from current Neuroscience students. Topics vary from week to week.

Rules & Requirements
Grading Status: Letter grade.

NBIO 951. Research in Neurobiology. 3-12 Credits.
Permission of the department. Research in various aspects of neurobiology. Six to 24 hours a week.

Rules & Requirements
Grading Status: Letter grade.
Same as: BIOL 951, PHCO 951.

NBIO 993. Master's Research and Thesis. 3 Credits.
Course is designed to certify that the students have achieved a high level of knowledge competence in clinical and basic neurosciences, without the rigorous research experience required of a Ph.D.

Rules & Requirements
Repeat Rules: May be repeated for credit.

NBIO 994. Doctoral Research and Dissertation. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

Contact Information

Neuroscience
Visit Program Website (https://www.med.unc.edu/neuroscience/curriculum/)

Director of Graduate Studies
Jay Brenman
brenman@med.unc.edu

Student Services Manager
Sue Modlin
smodlin@email.unc.edu

SCHOOL OF NURSING (GRAD)

At the graduate level, the School of Nursing offers the master of science in nursing (M.S.N.), the doctor of nursing practice (D.N.P.), and the doctor of philosophy in nursing (Ph.D.).

Master of Science in Nursing

The master of science in nursing (M.S.N.) program prepares nurses for advanced practice nursing focused on direct patient care or as advanced specialists in health care leadership and administration.

Length of Program

The program of study varies from 33 to 46 credits of academic coursework, including clinical practice, a professional portfolio as a substitute for the oral comprehensive examination, and a master's paper (or in some cases, a thesis). Advanced practice students (i.e., nurse practitioner students) may purse the M.S.N. degree on a full-time basis, while students seeking preparation in health care leadership and administration may pursue the M.S.N. degree on a full-time or part-time basis.

Master's Program Curriculum

The curriculum includes professional, research, clinical core courses and advanced nursing practice courses. The professional (NURS 746, NURS 790I) and research (NURS 740, NURS 992 or NURS 993) courses are required of all students. The clinical core courses and advanced nursing practice courses focus on the student's selected area of specialization and role preparation.

The program options offered reflect a combination of current practice trends as well as available faculty resources. Each student is admitted to a specific advanced nursing practice population or specialty area and assigned a faculty advisor appropriate to the student's educational and career goals. Upon completion of the program, students are eligible to sit for national certification examinations appropriate to their advanced area of preparation.

The M.S.N. program prepares nurses as (1) advanced practice registered nurses (i.e., nurse practitioners) focused on direct patient care or (2) as specialists in health care leadership and administration. The current advanced practice nursing population foci include adult-gerontology primary care nurse practitioner, family nurse practitioner, pediatric nurse practitioner-primary care, and psychiatric-mental health nurse practitioner. The Heath Care Leadership and Administration option is offered online and incorporates both with synchronous and asynchronous online learning. The nurse practitioner options are delivered in hybrid format, with a mix of face-to-face and online courses.

The M.S.N. program also includes advanced practice courses in adult oncology. Master's students may elect to take these offerings as electives or declare an oncology focus in addition to their primary population or specialty area of interest. A graduate certificate in nursing education (additional nine credits) is available for students who desire to develop these skills in teaching and learning along with their advanced nursing preparation.

Doctor of Philosophy in Nursing

The Ph.D. program of the University of North Carolina at Chapel Hill is grounded in our commitment to enhancing the health of individuals, families, and communities; increasing the effectiveness of health care systems; and furthering the translation of research into practice. Graduates of the program are prepared to advance the theoretical and empirical underpinnings of nursing science, engage in interdisciplinary inquiry, and disseminate knowledge. The Ph.D. curriculum reflects the goals of the National Institutes of Health to foster discovery and increase the knowledge base for improving the health of all populations and to reduce health disparities. The program emphasizes the integration of the biological and behavioral sciences; the development and testing of evidence-based, theoretically grounded interventions; and the improvement of health care quality and outcomes. Faculty research addresses five areas of excellence, all grounded in a commitment to reducing disparities and promoting health equity: community engagement, multilevel determinants of health, nursing and health systems, preventing chronic illness and promoting health, and digital innovation. Students work closely with internationally renowned faculty from nursing and other disciplines to develop the skills and expertise needed to launch their program of research and pursue a successful career in academic and health care settings.

Length of Ph.D. Program

The Ph.D. program of study is a minimum of 54 credits of academic coursework including a qualifying examination and a dissertation. Students may pursue the Ph.D. degree on a full-time basis only.

Ph.D. Program Curriculum

The Ph.D. curriculum in the School of Nursing includes the following components: coursework, a written qualifying exam, mentored research experience and the dissertation. The program of study for students incorporates both required and elective courses distributed as follows: core knowledge and competencies (12 credits), core research methods (24 credits), and elective courses in the student's substantive area or courses that support the development of methods or additional research practica (12-15 credits). Six of the elective credits must support the dissertation research from outside the discipline of nursing or be interdisciplinary. A minimum of 6 dissertation credits also are required.

Doctor of Nursing Practice

The doctor of nursing practice (D.N.P.) program prepares nurses for the highest level of advanced practice nursing focused on direct patient care (i.e., nurse practitioner) or as leaders in health care systems. Graduates receive preparation in such key areas as evidence-based practice, organization and systems leadership, finance, health policy, information technology, population health, quality improvement, patient safety, and translational research with the goal of improving patient and population health outcomes.

Length of Program

The program credits range from 60–73 credit hours for those with baccalaureate preparation and 36 credits hours for those with M.S.N. preparation. The program includes academic coursework, clinical practice, a qualifying examination, and a practice-focused scholarly project. Students with baccalaureate preparation may pursue the D.N.P. degree on a full-time basis, while students with M.S.N. preparation may pursue the D.N.P. degree on a full-time or part-time basis.

D.N.P. Program Curriculum

The B.S.N. to D.N.P. program of study builds upon baccalaureate education and expands current M.S.N. education to prepare nurses for the highest level of professional nursing practice. Each student is admitted to a specific advanced practice or specialty area and assigned a faculty advisor appropriate to the student's educational and career goals. Upon completion of the program, students are eligible to sit for

national certification examinations appropriate to their advanced area of preparation.

The following nurse practitioner population foci are available in the B.S.N. to D.N.P pathway: adult-gerontology primary care, family, pediatric primary care, and psychiatric-mental health. The Health Care Leadership and Administration option prepares nurses as leaders in health care systems.

The M.S.N. to D.N.P pathway is for nurses who have completed the M.S.N. degree and are certified or eligible for certification as an advanced practice registered nurse (nurse practitioner) or a health systems leader. The M.S.N. to D.N.P. curriculum builds on the M.S.N. degree to achieve the highest level of nursing practice. This pathway is offered in online format that incorporates both synchronous and asynchronous learning.

A graduate certificate in nursing education (additional nine credits) is available for D.N.P students who desire to develop these skills in teaching and learning along with their advanced nursing preparation.

Following the faculty member's name is a section number that students should use when registering for independent studies, reading, research, and thesis and dissertation courses with that particular professor.

Tenured/Tenure Track

Distinguished Professors

Jada Brooks (141)
Ashley Leak Bryant (143)
Cheryl Giscombe (31)
Cheryl B. Jones (112)
Saif Khairat (155)
Shawn Kneipp (134)
Jennifer Leeman (133)
Sheila Santacroce (51)
Suzanne Thoyre (45)
Mark Toles (142)

Professors

Ashley Leak Bryant (143)
Cheryl Giscombe (31)
Cheryl B. Jones (112)
Saif Khairat (155)
Shawn Kneipp (134)
Jennifer Leeman (133)
Mary Lynn (84)
Sheila Santacroce (51)
Brent Small
Suzanne Thoyre (45)
Marcia Van Riper (120)
Margaret C. Wilmoth (167)
SeonAe Yeo (108)

Associate Professors

Jada Brooks (141)
Leslie Davis(23)
Eric Hodges (16)
Cathi Propper
Mark Toles (142)
Natalia Rodriguez Villegas (26)
Jessica Williams (168)
Jessica Zegre-Hemsey (144)

Assistant Professors

Lorinda Coombs (30)
Rachel Hirschey (11)
Matthew LeBlanc
Lisa Mansfield
Rebecca Salomon
Karen Sheffield-Abdullah (002)
Grace Wu (12)
Rose Xavier (19)

Research Associate Professors

Jamie Crandell
Todd Schwartz

Fixed Term Track

Professors

Jennifer Alderman (145)
Rumay Alexander (020)
Margaret Carman (003)
Carol Durham (111)
Louise Fleming (013)
Rhonda Lanning (146)
Carrie Palmer (049)
Theresa Raphael-Grimm (121)
Shielda Rodgers (021)
Victoria Soltis-Jarrett (126)
Lisa Woodley (164)
Meg Zomorodi (070)

Associate Professors

Jennifer Alderman (145)
Maureen Baker (007)
Suja Davis(014)
Jean Davison (114)
Julie Jacobson-Vann (131)
Ashley Kellish (005)
Maureen Kelly (040)
Rebecca Kitzmiller (150)
Audra Rankin (024)
JoAn Stanek (158)
Elizabeth Stone
Megan Williams (022)

Assistant Professors

Susana Barroso (027)
Kandyce Brennan
Amanda Brinson (86)
Michael Bury
Susan Catchings (025)
Beth Cosgrove
Cathy Crawford (032)
Stephanie Fisher
Grace Hubbard (062)
Sharon Jackson
Ann Marie Jones (017)
Stephanie Machalicky (028)
Rachel McInerney (018)

Leigh Mullen
Katherine Peppers (173)
Leslie Sharpe (159)
Brandy Reardon
Nancy Thompson
Tracy Vernon-Platt (147)

Instructors

Marlena Brokob
Marco Castro
LaTonia Chalmers
Bethany Davis
Ryan Lewis
Krystal Pendergraft-Horne
Megan Ross
Erin Stanley
Cara Winstead

Nurse Specialists

Laura Livingston
Patrick McMurray
Lonna Patel
Samantha Sheets Mapel
Scotty Switzer

Faculty Emeriti

Ruth Anderson
Linda Beeber
Beth Black
Barbara Bunker
Margaret E. Campbell
Linda Cronenwett
Jo Ann Dalton

Jennifer D'Auria
Molly C. Dougherty
Margery Duffey
Catherine I. Fogel
Cynthia M. Freund
Sandra G. Funk
Barbara Germino
Edward Halloran
Joanne Harrell
Donna Havens
Carol C. Hogue
Margaret F. Hudson
George Knafl
Kathleen Knafl
Betty H. Landsberger
Patricia Lawrence
Vickie Lester
Barbara Mark
Deborah Mayer
Laura McQueen
Margaret Miles
Nancy Milio
Helen M. Murphy
Betty Nance-Floyed
Virginia Neelon
Sonda Oppewal
Julie Page
Mary Palmer
Nilda Peragallo Montano
Susan Pierce
Barbara C. Rynerson
Margarete Sandelowski
Mary Schuler
Anne Skelly
Lixin Song
Ingrid Swenson
Eleanor Taggart
Anita Tesh
Debbie Travers

NURS

Advanced Undergraduate and Graduate-level Courses

NURS 401. Integrating Principles of Leadership, Quality and Safety, and Informatics into Nursing Practice. 3 Credits.
This course focuses on systems thinking and complexity, development of leadership roles and skills, and interprofessional communication and teamwork. All Carolina Core tenets are examined; however, leadership, quality and safety, and informatics are central foci. Majors Only.

Rules & Requirements
Grading Status: Letter grade.

NURS 402. Foundations of Population Health and Global Health: Carolina Core IV. 2 Credits.
In this course, all Carolina Core tenets are explored; however, there is a focus on population health and global health as essential components of nursing. Students will examine global health challenges as well as policy strategies of promoting health for all. Majors Only.

Rules & Requirements
Grading Status: Letter grade.

NURS 410. Clinical Nursing Skills and Health Assessment III: On Campus Clinical III. 1 Credits.
The third in a series of four on campus clinical courses with application of advanced clinical nursing skills and comprehensive health assessment to specialized populations. This course emphasizes application of leadership, pediatric and community health concepts. The clinical environment is simulated to provide the application of nursing principles and skills. Majors Only.

Rules & Requirements
Requisites: Prerequisites, NURS 310, 311, and 352; Pre- or corequisite, NURS 484.
Grading Status: Letter grade.

NURS 411. Clinical Nursing Skills and Health Assessment IV: On Campus Clinical IV. 1 Credits.
Fourth in a series of four on-campus clinical courses with application of advanced clinical nursing skills to specialized populations with a focus on transition to practice. The clinical environment is simulated to provide the application of nursing principles and skills.

Rules & Requirements
Requisites: Prerequisites, NURS 310, 311, 352, and 410; Corequisite, NURS 697.
Grading Status: Letter grade.

NURS 425. Global and Interprofessional Approaches to Solve Complex Cases. 3 Credits.
This course uses a case-based approach to assist students to identify and critically examine challenging issues in health care, develop presentation skills as well as critical thinking from an interprofessional perspective. Students will work in interprofessional teams on a global complex case. Using this approach, students will attain the knowledge necessary to analyze and present results for a comprehensive case at the individual, organizational, and community levels. Open to undergraduate students with permission from instructor.

Rules & Requirements
Grading Status: Letter grade.

NURS 430. Nursing Care of Adults II. 5 Credits.
Centers on management of adults experiencing complex health problems and focuses on application of evidence based practice and skill acquisition needed to care for acutely ill patients through transitions in an illness experience. Clinical experience in acute care settings provide application for clinical reasoning, clinical care, and knowledge integration. Majors Only.

Rules & Requirements
Requisites: Prerequisites, NURS 310, 311, 330, and 352.
Grading Status: Letter grade.

NURS 461I. Exploring Social Determinants of Health Across Populations. 3 Credits.
This seminar allows students to explore how social determinants of health affect the health of populations.

Rules & Requirements
IDEAs in Action Gen Ed: HI-SERVICE.
Grading Status: Letter grade.
Same as: EDUC 461I.

NURS 481. Mental Health Promotion and Psychiatric Care Across Populations and Settings. 5 Credits.
Using selected theories of human psychosocial development, psychopathology, and psychotherapy, this course requires students to advance their use of therapeutic communication skills, examine the range and complexities of human emotional suffering, and apply methods of effective intervention. Majors Only.

Rules & Requirements
Requisites: Prerequisites, NURS 330 and 351; Pre- or corequisites, NURS 311 and 352.
Grading Status: Letter grade.

NURS 482. Reproductive Health and Nursing Care of the Childbearing Family. 5 Credits.
The course emphasizes development of caring and critical thinking skills in providing evidence-based nursing care focused on reproductive health and care of childbearing families. Majors Only.

Rules & Requirements
Requisites: Prerequisites, NURS 351 and 330; Pre- or corequisites, NURS 311 and 352.
Grading Status: Letter grade.

NURS 483. Family-Centered Nursing Care from Birth through Adolescence. 5 Credits.
This course emphasizes development of caring and critical thinking skills in providing evidence-based, family centered, culturally responsive nursing care to infants, children, and adolescents throughout the care continuum. Majors Only.

Rules & Requirements
Requisites: Prerequisites, NURS 311, 330, and 352; Pre- or corequisite, NURS 430.
Grading Status: Letter grade.

NURS 484. Public Health Nursing in Community Settings. 4 Credits.
Students apply evidence-based public health concepts to community practice to improve health and reduce disparities across the life span, emphasizing interventions using partnership strategies at individual, family, organizational, and policy levels. Majors only.

Rules & Requirements
Requisites: Prerequisites, NURS 311, 330, and 352; corequisite, NURS 410.
Grading Status: Letter grade.

NURS 496. Advanced Practicum in Nursing. 1-3 Credits.
Majors only. The focus of this course is the development of knowledge and experience related to research or service learning and its application to the practice of nursing and health care.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

NURS 497. Preparation for Professional Practice. 1 Credits.
This course will assist students in preparation for the NCLEX-RN examination through a strategic and systematic individualized plan of study that utilizes testing programs and other relevant resources.

Rules & Requirements
Repeat Rules: May be repeated for credit. 3 total credits. 3 total completions.
Grading Status: Letter grade.

NURS 510. Management of the Critically Ill Adult. 3 Credits.
This course focuses on collaborative management of critically ill adult patients. Students will gain advanced skills and demonstrate critical thinking to apply evidence based practice to care for critically ill patients across the continuum of care.

Rules & Requirements
Requisites: Prerequisite, NURS 430.
Grading Status: Letter grade.

NURS 512. Care of Individuals with Cancer and their Families. 3 Credits.
This course focuses on the cancer experience of individuals and families across the lifespan (pediatric to older adults). The cancer control continuum framework will guide content focused discussions on prevention and risk reduction, screening, diagnosis, treatment, survivorship, and end-of-life care.

Rules & Requirements
Requisites: Prerequisites, NURS 301 and 330; pre- or corequisite, NURS 352.
Grading Status: Letter grade.

NURS 514. Pediatric Emergency and Critical Care Fundamentals. 3 Credits.
This course, offered in collaboration with UNC Hospitals, focuses on the collaborative care of pediatric patients in the emergency department and in critical care units (NICU, PICU). Students will be introduced to advanced assessments and interventions utilized in these environments. Students will also discuss interdisciplinary challenges specific to pediatric emergency and critical care and investigate evidence-based solutions to some of these challenges. Majors only.

Rules & Requirements
Requisites: Pre- or corequisite, NURS 483.
Grading Status: Letter grade.

NURS 600. SHAC: Student Health Action Coalition. 0 Credits.
This course provides service-learning opportunities to apply nursing practice within the context of interprofessional care for vulnerable populations by participating with Student Health Action Coalition (SHAC) activities.

Rules & Requirements
Repeat Rules: May be repeated for credit. 0 total credits. 8 total completions.
Grading Status: Pass/Fail.

NURS 601. Experiential Learning in Nursing. 0 Credits.
This course provides experiential educational opportunities to apply nursing practice through volunteer participation in select communities. Majors only.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 0 total credits. 8 total completions.
Grading Status: Pass/Fail.

NURS 607I. Interprofessional Team Work and Communication - Key to Patient Safety. 3 Credits.
Majors only. This interprofessional course focuses on understanding roles, teamwork, and communication to improve patient safety within the health care environment. National standards and initiatives will be the foundation of the course. Pass/Fail only.

Rules & Requirements
Grading Status: Letter grade.

NURS 609. Health Care in the Global Context. 1 Credits.
A faculty-led experiential learning opportunity focusing on development and knowledge related to research, health care systems, or service learning and its application to nursing and health care. Majors only or permission of the instructor.

Rules & Requirements
Requisites: Pre- or corequisite, NURS 320.
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 8 total credits. 8 total completions.
Grading Status: Letter grade.

NURS 610. Introductory Spanish for Health Professionals. 3 Credits.
This course is intended for students who know no Spanish or so little that they feel the need to start over. Students with more than two semesters of college Spanish are not eligible. The course covers the curriculum of first-semester Spanish taught within a health context, with a focus on speaking.

Rules & Requirements
Grading Status: Letter grade.
Same as: PUBH 610, SOWO 610.

NURS 611. Supporting the Childbearing Family. 3 Credits.
Application required. An interprofessional, service-learning approach to studying maternity care. Students will receive professional doula training and volunteer as birth doulas within the Volunteer Doula Service Program at North Carolina Women's Hospital.

Rules & Requirements
Grading Status: Letter grade.

NURS 612. Interprofessional Perspectives on Diabetes Mellitus Management. 3 Credits.
This elective course examines the current issues involved in managing diabetes mellitus in persons over their lifespan with an interprofessional lens. Contributions from all members of the healthcare team are an important theme throughout this course. This course integrates the pathophysiology of disease, therapeutics, and psychosocial modalities into the management of patients with diabetes. Previously offered as NURS 516. Majors only.

Rules & Requirements
Requisites: Prerequisites, NURS 330 and NURS 351.
Grading Status: Letter grade.

NURS 613I. Intermediate Spanish for Health Care I. 3 Credits.
This intermediate course is the equivalent of the third semester of college Spanish. Students will hone their listening and speaking skills in class primarily through role-playing activities and class discussion. Activities center on an original film set in a health clinic in rural North Carolina.

Rules & Requirements
Grading Status: Letter grade.
Same as: PUBH 613, HSCI 613I, SOWO 613I.

NURS 615I. Advanced Spanish for Health Care I. 3 Credits.
Required preparation, third semester Spanish or equivalent. This advanced course reviews the grammar of the third and fourth semester of college Spanish. Students hone their listening and speaking skills through role-playing activities and class discussion. Activities center on an original film set in a Latino-run health clinic.

Rules & Requirements
Grading Status: Letter grade.
Same as: PUBH 615, HSCI 615I, SOWO 615I.

NURS 616. Experiential Learning in Nursing: A Collaboration with UNC Health Center for Nursing Excellence. 3 Credits.
This course provides experiential educational opportunities to apply nursing practice through volunteer participation in select communities associated with UNC Health. Admission to the undergraduate nursing program required.

Rules & Requirements
Requisites: Pre- or corequisite, NURS 430.
Grading Status: Letter grade.

NURS 619. Experiencing Health Professions: A Service-Learning Partnership for Pre-Health Students. 3 Credits.
This course provides experiential service opportunities for career exploration with select communities and populations associated with UNC Health. Students will be assigned to a role within the health system and will complete service hours within their assigned role. Class sessions will include topics related to healthcare and will develop skills in reflection, communication, and teamwork for career development. Does not count as an elective in the BIOL major or minor. Permission of instructor.

Rules & Requirements
IDEAs in Action Gen Ed: HI-SERVICE, COMMBEYOND.
Requisites: Prerequisite, BIOL 117.
Grading Status: Letter grade.
Same as: BIOL 119.

NURS 620. Mindfulness and Self-Compassion for Caring Professionals. 3 Credits.
This course is designed to introduce students to rationale, research, and practices of mindfulness and self-compassion. Upon course completion, students will exhibit knowledge and skills related to mindfulness/contemplative practice/training, research evidence on mindfulness for enhancing provider self-care, patient/client engagement, and wellness (e.g., reducing stress, burnout, and fatigue; increasing resilience). Majors only; permission of the instructor for non-majors.

Rules & Requirements
Grading Status: Letter grade.

NURS 671. Nursing Inquiry and Evidence-Based Practice for Advanced Scholarship. 3 Credits.
Introduction to scientific inquiry, evidence-based practice, and nursing/healthcare innovations. Emphasis on: theory; ethics; problem identification; question development; design selection; data analysis and interpretation; statistical applications; and appraisal of research reports. Admission to an undergraduate BSN program and eligible to take required undergraduate nursing research course; the Hillman Scholars program; or PhD in Nursing Program required.

Rules & Requirements
Grading Status: Letter grade.

NURS 675. Hillman Scholars in Nursing Innovation: Integrative Seminar. 1 Credits.
Cultivates students' development as nurse scientists, scholars, and leaders to improve health care quality, safety, and delivery, and to influence policies that promote health and strengthen health systems outcomes. Admission to the Hillman Scholars Program in Nursing Innovation is required.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

NURS 680. Experimental Courses. 1-3 Credits.
Pilot test for new courses in the nursing program.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

NURS 685I. Care of the Dying and Bereaved throughout the Life Span. 3 Credits.
Students from a variety of health sciences-related disciplines gain an understanding of issues in working with dying and bereaved individuals of all ages and their families.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

NURS 691H. Honors in Nursing, Part I. 3 Credits.
Permission of the program director. Majors only. Preparation of a two-semester honors project under the direction of department advisors.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

NURS 692H. Honors in Nursing, Part II. 3 Credits.
Permission of the program director. Majors only. Preparation of a two-semester honors project under the direction of department advisors.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

NURS 697. Capstone: Transitions in Care and Practice. 6 Credits.
Students will incorporate previously learned leadership concepts, clinical skills, therapeutic communication, and critical thinking to deliver quality nursing care, using evidence based practice, in varied settings with faculty and RN guidance. Preparing for the NCLEX-RN examination and strategies for successful transition from student nurse to registered nurse will be explored. Majors only.

Rules & Requirements
IDEAs in Action Gen Ed: HI-INTERN.
Requisites: Prerequisites, NURS 330, 430, 481, 482, and 483; Corequisites, NURS 402 and 411.
Grading Status: Letter grade.

Graduate-level Courses

NURS 703I. Alternative Medicine. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.

NURS 704. Scientific Writing. 1 Credits.
Focuses on the principles and practice of scientific writing, with emphasis on research proposals, theses, research reports, dissertations, and articles for publication.

Rules & Requirements
Grading Status: Letter grade.

NURS 710. Developmental Physiology and Pathophysiology. 3 Credits.
This course explores developmental changes in morphological processes and normal and pathologic physiology in humans from conception through adolescence. Physiological differences between infants and children and adults are emphasized.

Rules & Requirements
Grading Status: Letter grade.

NURS 715. Pathophysiology for Advanced Nursing Practice. 3 Credits.
This course explores the physiologic functions in humans throughout the lifespan. The broad-based content integrates pathophysiological concepts with emphasis on advanced practice nursing. Must be enrolled in School of Nursing Graduate Program.

Rules & Requirements
Requisites: Corequisite, NURS 750 & NURS 752.
Grading Status: Letter grade.

NURS 720. Pharmacotherapeutics for Advanced Nursing Practice. 3 Credits.
This course will examine the principles of pharmacotherapeutic decision-making in advanced nursing practice, with application to the clinical management of common health problems specific to all age groups, encompassing a life span approach. Nursing majors only.

Rules & Requirements
Requisites: Pre- or Co-requisite, NURS 715.
Grading Status: Letter grade.

NURS 721. Pediatric Pharmacology. 1 Credits.
The course will examine the principles of pharmacotherapeutic decision making in advanced nursing practice, with application to the clinical management of common health problems specific to pediatrics.

Rules & Requirements
Requisites: Prerequisites, NURS 715 and 720; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

NURS 722. Psychopharmacology in Psychiatric-Mental Health Advanced Practice Nursing. 2 Credits.
Examines the principles of psychopharmacology and neurobiology for safe and effective psychotherapeutic management of individuals with psychiatric and mental health problems across the lifespan.

Rules & Requirements
Requisites: Prerequisites, NURS 715, 726, and 727; co-requisite, NURS 720; permission of the instructor for students lacking the pre- and corequisites.
Grading Status: Letter grade.

NURS 723. Psychiatric Diagnosis and Psychopharmacology Across the Lifespan. 3 Credits.
This course provides concepts in evidence-based psychopharmacological management of individuals across the lifespan for advanced nursing practice. Topics include neurobiological concepts, psychiatric diagnosis and treatments, rational decision-making, and the initiation, monitoring, and discontinuation of psychotropic medications in the treatment of psychiatric and substance abuse disorders in a variety of settings. Students will explore recent advances in neurobiology, genomics, and psychopharmacology. Nursing majors only.

Rules & Requirements
Requisites: Prerequisites, NURS 715, 720, 750 and 752; Corequisite, NURS 860.
Grading Status: Letter grade.

NURS 725. Advanced Health Assessment and Diagnostic Reasoning in Pediatric Nursing. 4 Credits.
This course is designed to prepare the advanced practice nurse to comprehensively assess pediatric clients using a diagnostic reasoning process.

Rules & Requirements
Requisites: Pre- or corequisite, NURS 710.
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 8 total credits. 2 total completions.
Grading Status: Letter grade.

NURS 726. Advanced Health Assessment and Diagnostic Reasoning in Primary Care Nursing. 4 Credits.
This course examines the process of diagnostic reasoning as a framework to synthesize comprehensive assessment of patients throughout the lifespan.

Rules & Requirements
Requisites: Pre- or corequisite, NURS 715.
Grading Status: Letter grade.

NURS 727. Advanced Diagnostic Process in Psychiatric-Mental Health Nursing. 4 Credits.
This course introduces students to the role of the advanced practice psychiatric-mental health nurse. Models for assessment, intervention, and evaluation are explored and tested clinically.

Rules & Requirements
Requisites: Pre- or corequisites, NURS 715 and 726.
Grading Status: Letter grade.

NURS 730. Foundations in Clinical Informatics: Data, Information, and Knowledge. 3 Credits.
Required preparation, graduate nursing program admission or instructor permission. This foundational course provides an overview of computer and information science concepts as applied to health care.

Rules & Requirements
Grading Status: Letter grade.

NURS 740. Evidence-Based Practice and Research. 3 Credits.
This course provides the essential concepts and strategies for research and quality improvement, and the impact of these methodologies on patient populations and care systems.

Rules & Requirements
Grading Status: Letter grade.

NURS 746. Health Care Policy and Leadership. 3 Credits.
This course examines the role of nursing in health care leadership and policy. Students will gain competencies in the application of micro and meso level leadership tools. Students will apply these skills to the health policy development and advocacy as a means of impacting the health of populations at the local, state, and national and/or international level. Nursing majors only.

Rules & Requirements
Grading Status: Letter grade.

NURS 750. Advanced Health and Physical Assessment for Advanced Nursing Practice. 3 Credits.
This course is an advanced, comprehensive assessment of an individual's health across their developmental lifespan that examines the interactions of developmental, biopsychosocial, and socio-cultural contexts of health.

Rules & Requirements
Requisites: Pre- or corequisite, NURS 715.
Grading Status: Letter grade.

NURS 752. Advanced Diagnostic Reasoning. 2 Credits.
This course examines the process of diagnostic reasoning as a framework to synthesize comprehensive assessment and disease prevention using lifespan concepts. Nursing majors only.

Rules & Requirements
Requisites: Corequisite, NURS 750; Pre- or corequisite, NURS 715.
Grading Status: Letter grade.

NURS 776. Research for Advanced Clinical Practice. 3 Credits.
Graduate standing and successful completion of an undergraduate statistics course required. This course explores approaches to research problems in advanced practice nursing. Theories, methods, designs, measurement, ethical conduct, and skills in critical appraisal are emphasized.

Rules & Requirements
Grading Status: Letter grade.

NURS 777. Intermediate Statistical Applications in Health Care. 3 Credits.
Graduate standing required. This course provides an introduction to probability, statistical concepts, and analytical techniques useful in health care research and for interpreting the literature.

Rules & Requirements
Grading Status: Letter grade.

NURS 778. Interpreting Research Reports. 3 Credits.
For Nursing students admitted to the Graduate School. Focuses on approaches for critical reading of research reports to evaluate the evidence base for practice.

Rules & Requirements
Grading Status: Letter grade.

NURS 779. Synthesis and Translation of Evidence. 3 Credits.
Focuses on the translation of research evidence to support improved models of care delivery.

Rules & Requirements
Requisites: Prerequisite, NURS 778; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

NURS 780I. Multidisciplinary Perspectives on Managing Diabetes Mellitus. 2 Credits.
This course examines the current issues involved in managing diabetes mellitus in persons over their life span. Contributions of the multidisciplinary team are an important theme throughout this course.

Rules & Requirements
Grading Status: Letter grade.

NURS 781I. Genomics and Society. 3 Credits.
This multidisciplinary course offers students the opportunity to gain a basic understanding of human genetics and explore the ethical, legal, and social implications of recent advances in genetics.

Rules & Requirements
Grading Status: Letter grade.

NURS 786. Advanced Concepts in the Clinical Care of Older Adults. 2 Credits.
Graduate students only. Focuses on advanced concepts for nursing management of older adults and their families with an emphasis on interdisciplinary care.

Rules & Requirements
Grading Status: Letter grade.

NURS 787. Cancer Care for Advanced Practice Providers. 1 Credits.
This course for MSN, DNP, and PhD students provides an understanding of management of adults across the cancer continuum (prevention, early detection, treatment, and beyond [survivorship, palliative care, end-of-life care]) for advanced practice providers regardless of practice setting.

Rules & Requirements
Grading Status: Letter grade.

NURS 788. Advanced Pharmacology in Oncology. 1 Credits.
Focuses on the pharmacologic management of drugs used for therapeutic management and supportive care in adult oncology.

Rules & Requirements
Requisites: Prerequisites, NURS 715 and 720; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

NURS 789. Advanced Concepts in Oncology Nursing. 2 Credits.
Admission to Adult-Gerontology Nurse Practitioner program or permission of the instructor required. This course focuses on an evidence-based approach for the advanced practice nurse, incorporating pathophysiology; prevention/detection; medical treatment; nursing management; and socioeconomic, ethical, and legal issues related to adult cancer care.

Rules & Requirements
Grading Status: Letter grade.

NURS 790I. Population Health: Interprofessional Management in a Changing Healthcare System. 3 Credits.
This interprofessional education course focuses on preparing healthcare professionals with the foundational skills needed to work in teams to effectively collaborate and coordinate care in population health. Admission to the School of Nursing graduate program or graduate students in any of the Health Affairs Schools with permission of instructor required.

Rules & Requirements
Grading Status: Letter grade.
Same as: SOWO 790.

NURS 799. Special Problems. 1-3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 3 total credits. 99 total completions.
Grading Status: Letter grade.

NURS 810. Primary Care of Adolescents and Adults. 6 Credits.
This course will focus on advanced assessment, diagnosis and management of adolescents and adults seen in primary care settings.

Rules & Requirements
Requisites: Prerequisite, NURS 715, NURS 720, NURS 750, & NURS 752; Pre- or corequisite, NURS 720.
Grading Status: Letter grade.

NURS 811. Selected Issues in Adult Health. 5 Credits.
Provides the opportunity for an in-depth examination of management strategies with selected health problems in adults. Also examines issues inherent in the management of women and elderly populations.

Rules & Requirements
Requisites: Prerequisites, NURS 715, 720, 726, and 810; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

NURS 812. Care of Adults with Complex Health Problems. 6 Credits.
This course focuses on care of adults with complex health problems. Students will develop skills to assist with the successful transition into the role of an AGPCNP into health care systems.

Rules & Requirements
Requisites: Pre- or corequisites, NURS 715, 720, 750, 752, 819, 824, and 825.
Grading Status: Letter grade.

NURS 815. Advanced Practice Nursing Role. 1 Credits.
Examines current advanced practice nursing roles issues, within the context of contemporary healthcare delivery, legal, and sociopolitical systems.

Rules & Requirements
Requisites: Prerequisites, NURS 810, 840, or 860; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

NURS 819. Practicum in Primary Care Management of Adults. 2 Credits.
A clinical practicum in an ambulatory care setting that provides experience in the delivery of healthcare from age 13 through end-of-life, to individuals and their families.

Rules & Requirements
Requisites: Prerequisites, NURS 715, 720, 750, 752, and 810; Corequisite, NURS 825.
Grading Status: Letter grade.

NURS 820. Clinical Practicum in Advanced Oncology Nursing. 2-4 Credits.
Focuses on the evidence-based management of common acute, episodic, and chronic health problems in adult cancer patients for the oncology nurse practitioner.

Rules & Requirements
Requisites: Prerequisites, NURS 788 and 789; Corequisites, NURS 821; Permission of the instructor for students lacking the pre- and co-requisites.
Grading Status: Letter grade.

NURS 821. Seminar in Advanced Oncology Nursing. 0.5 Credits.
Focuses on evidence-based nursing and medical management issues relevant to the care of patients and their families across the cancer continuum and practice settings.

Rules & Requirements
Requisites: Prerequisites, NURS 788 and 789; co-requisite, NURS 820; permission of instructor for students lacking the co-requisite.
Grading Status: Letter grade.

NURS 823. Advanced Practicum in Primary Care Management of Adults. 2 Credits.
This clinical capstone course prepares Adult Gerontology primary care nurse practitioner students to synthesize and apply concepts and knowledge critical for professional primary care advanced practice nursing with individuals, families and communities. Students' independent practice skills are refined in precepted clinical experiences.

Rules & Requirements
Requisites: Prerequisites, NURS 715, 720, 750, 752, 810, 812, and 824.
Grading Status: Letter grade.

NURS 824. Advanced Concepts in the Clinical Care of Older Adults. 4 Credits.
This course focuses on the clinical management of older adults and their families emphasizing interdisciplinary care. Content includes physiologic, pathological, psychosocial and functional changes associated with aging; including social gerontological issues. Nursing majors only.

Rules & Requirements
Requisites: Prerequisite, NURS 715, NURS 720, NURS 750, NURS 752, NURS 810, NURS 819, NURS 825.
Grading Status: Letter grade.

NURS 825. Sexual and Reproductive Health for Advanced Nursing Practice. 4 Credits.
Uses a life span approach to examine principles of primary care management of childbearing couples and sexual reproductive health in women and men. Application is in community-based settings. Nursing majors only.

Rules & Requirements
Requisites: Prerequisites, NURS 715, 720, 750, 752, and 810; Corequisites, NURS 819.
Grading Status: Letter grade.

NURS 826. Introduction to Population Health and Community-Based Practice. 2 Credits.
This course introduces fundamental concepts and models of population-oriented nursing practice and the central issues affecting that practice. Focuses on health disparities and underserved populations.

Rules & Requirements
Grading Status: Letter grade.

NURS 827. Primary Care of Infants, Children and Adolescents. 4 Credits.
This course will focus on developmentally appropriate advanced assessment, diagnosis and family-centered management of infants, children and adolescents seen in primary care settings.

Rules & Requirements
Requisites: Prerequisites, NURS 715, NURS 720, NURS 750, NURS 752, and NURS 810.
Grading Status: Letter grade.

NURS 828. Primary Care Across the Lifespan with Advanced Clinical Practicum. 6 Credits.
This capstone course emphasizes the comprehensive, whole-person approach to the clinical management of primary health care needs across the lifespan in the context of the individual, the family and/or the community.

Rules & Requirements
Requisites: Pre- or Co-requisites, NURS 715, 720, 750, 752, 810, 825, and 827.
Grading Status: Letter grade.

NURS 830. Acute Care Advanced Nursing Practice for the Adult-Gerontology Population I. 5 Credits.
Students will begin to explore the professional role of the Adult-Gerontology Acute Care Nurse Practitioner. The program begins with a developmentally focused examination of how to assess and manage common challenges in complex patient care, including the older adult and those with chronic conditions.

Rules & Requirements
Requisites: Corequisite, NURS 831.
Grading Status: Letter grade.

NURS 831. Pharmacology in the Acute Care Setting with the Adult-Gerontology Population. 1 Credits.
Focusing on unique aspects of prescribing in the acute care setting, this course will help the AG-ACNP student to understand specific knowledge related to prescribing for more complex and unstable patients, and establish a systematic approach to prescriptive stewardship.

Rules & Requirements
Requisites: Corequisite, NURS 830.
Grading Status: Letter grade.

NURS 832. Acute Care Advanced Nursing Practice for the Adult-Gerontology Population II. 6 Credits.
This course will focus on content and clinical applications for more complex and critical conditions managed within the scope of Adult-Gerontology Acute Care Nurse Practitioner practice.

Rules & Requirements
Requisites: Prerequisites, NURS 830 and NURS 831.
Grading Status: Letter grade.

NURS 833. Adult-Gerontology Acute Care Nurse Practitioner Practicum. 5 Credits.
This final clinical course is intended to promote increasing independence in clinical decision making, risk stratification, and overall management of adult-gerontological patients with complex illness or injury in the acute care setting.

Rules & Requirements
Requisites: Prerequisite, NURS 830, NURS 831, NURS 832 ; Corequisite, NURS 834.
Grading Status: Letter grade.

NURS 834. Adult-Gerontology Acute Care Nurse Practitioner Seminar. 1 Credits.
This final seminar course is designed to support the nurse practitioner in the transition from primary to acute care clinician. Students will explore the professional role of the Adult-Gerontology Acute Care Nurse Practitioner as a pivotal member of interdisciplinary teams. Unique aspects of this transition will be examined, including collaborative relationships, the credentialing process, billing and coding, ethical challenges, and professional advocacy.

Rules & Requirements
Requisites: Prerequisite, NURS 830, 831, 832; Corequisite, NURS 833.
Grading Status: Letter grade.

NURS 835. Population Health and Epidemiology. 3 Credits.
Admission to Nursing graduate program. Focuses on epidemiologic approaches for studying the impact of social, economic, and cultural inequalities on health and illness patterns at population and clinical levels.

Rules & Requirements
Grading Status: Letter grade.

NURS 838. Health Care of Women Practicum. 1-5 Credits.
The women's health care advanced practicum focuses on the synthesis and clinical management of primary health care and specialty health care problems of women.

Rules & Requirements
Requisites: Prerequisites, NURS 715, 726, 810, 825, and 833.
Grading Status: Letter grade.

NURS 840. Primary Care of Children I. 6 Credits.
This course concentrates on clinical management of pediatric primary care patients and their families with a continuing focus on advanced diagnostic reasoning.

Rules & Requirements
Requisites: Prerequisite, NURS 715, NURS 720, NURS 750, & NURS 752; Permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

NURS 841. Primary Care of Children II. 4 Credits.
The course focuses on advanced clinical management of pediatric primary care patients, emphasizing concepts of family-centered health care in selected child and adolescent health problems. Students function in an advanced practice role working with children, adolescents, and their families in primary care, or outpatient pediatric specialty settings.

Rules & Requirements
Requisites: Pre- or corequisites, NURS 715, 720, 750, 752, 840 and 849; Permission of the instructor for students lacking the pre- or co-requisites.
Grading Status: Letter grade.

NURS 842. Care of Children with Complex Health Conditions. 6 Credits.
This course prepares the advanced practice nurse to design, implement, and evaluate a coordinated system of interventions that aim to promote optimal health and development for infants, children and adolescents with complex conditions. Students will develop skills to assist with the successful transition into the role of a Pediatric Nurse Practitioner into health care systems.

Rules & Requirements
Requisites: Pre- or corequisites, NURS 715, 720, 750, 752, 840, 841, and, 849.
Grading Status: Letter grade.

NURS 849. Clinical Practicum in Advanced Pediatric Nursing. 2 Credits.
Supervised practicum in an advanced practice role in a selected health care setting that provides primary care to infants, children, or adolescents.

Rules & Requirements
Requisites: Prerequisite, NURS 715, 720, 750, 752, 840, or permission of instructor.
Grading Status: Letter grade.

NURS 850. Advanced Clinical Practicum in Primary Care of Children. 2-3 Credits.
This course is the capstone practicum for pediatric nurse practitioner students. It emphasizes the comprehensive clinical management of primary health care needs of children in the context of the family.

Rules & Requirements
Requisites: Prerequisites, NURS 715, 720, 750, 752, 840, 841, and 842.
Grading Status: Letter grade.

NURS 860. Biopsychosocial Care 1: Psychiatric Mental Health Interventions Across the Lifespan. 5 Credits.
This course is the first of four in the sequence of intervention and case management courses. It builds on the skills of psychiatric mental health diagnostic formulation and provides a foundation for management of common behavioral health problems, psychiatric illness, and substance use disorders across the lifespan within a biopsychosocial framework.

Rules & Requirements
Requisites: Prerequisite, NURS 715, NURS 720, NURS 750, & NURS 752; Corequisite, NURS 723.
Grading Status: Letter grade.

NURS 863. Psychiatric-Mental Health Nursing for Underserved Populations. 3 Credits.
Utilizing epidemiology, psychoeducation, case management, and health policy, students examine the scope of mental health problems and services for underserved populations.

Rules & Requirements
Requisites: Prerequisites, NURS 727 and 860.
Grading Status: Letter grade.

NURS 864. Biopsychosocial Care 3: Psychiatric Mental Health Interventions in the Context of Relationships. 6 Credits.
This course is third of a four course sequence that focuses delivery of care across the lifespan by the PMHNP in the context of relationships and larger systems. The influence of families, peers, groups, communities and society on client mental health and psychiatric illness will be examined.

Rules & Requirements
Requisites: Prerequisites, NURS 715, 720, 750, 752, 723, 860 and 865.
Grading Status: Letter grade.

NURS 865. Biopsychosocial Care 2: Psychiatric Mental Health Interventions with Children. 3 Credits.
This course is the second of four in the sequence of intervention and case management courses for the PMHNP. It focuses on management of common psychiatric illnesses in childhood using a biopsychosocial framework.

Rules & Requirements
Requisites: Prerequisites, NURS 715, 720, 723, 750, 752, and 860.
Grading Status: Letter grade.

NURS 868. Biopsychosocial Care 4: Management of Complex Psychiatric Mental Health Problems Across the Lifespan. 6 Credits.
This capstone course builds on and synthesizes knowledge gained in the previous semesters. Psychotherapeutic and psychopharmacological interventions are integrated in the identification and management of complex psychiatric/mental health issues for diverse clients across the lifespan.

Rules & Requirements
Requisites: Pre- or corequisites, NURS 715, 720, 750, 752, 723, 860, 864, and 865.
Grading Status: Letter grade.

NURS 869. Practicum in Psychiatric Mental Health Care for Advanced Practice Nurses. 1-3 Credits.
This is the final advanced clinical course for students to apply knowledge and skills in selected domains of the advanced practice of psychiatric-mental health nursing. Supervision, peer evaluation, seminar, and independent readings will enhance the experience.

Rules & Requirements
Requisites: Prerequisites, NURS 727, 860, 863 and 864; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

NURS 870. Applied Health Informatics in Complex Health Care Systems. 3 Credits.
The course focuses on the concepts relevant to health care informatics, the use of computerized information systems, and the use of computer applications to support clinical and administrative decision-making.

Rules & Requirements
Grading Status: Letter grade.

NURS 871. Leadership and Advanced Practice Roles in Health Care Organizations. 3 Credits.
This course examines health care and nursing practice organizations, and the influence of the external and internal environment on these organizations. Roles and functions of nurses at different levels and in different types of health care settings are explored.

Rules & Requirements
Grading Status: Letter grade.

NURS 872. Managing Human Resources in Complex Health Care Systems. 3 Credits.
This course explores the knowledge and skills required for effective human resource management with emphasis on behaviors that promote and sustain an interprofessional health care practice environment. Nursing majors only. Admission to the Graduate School or permission of instructor required.

Rules & Requirements
Grading Status: Letter grade.

NURS 873. Financing for Value-Based Health Services and Systems. 3 Credits.
This course focuses on fundamental financial management concepts in health services organizations. Emphasis is placed on the financial environment and application of financial and managerial accounting and budgeting principles and methods to prepare nurse leaders and entrepreneurs for decision-making in simple to complex health services organizations. Nursing majors only.

Rules & Requirements
Grading Status: Letter grade.

NURS 874. Improving Quality, Safety and Outcomes in Complex Health Care Systems. 3 Credits.
Explores theories and methods for improving the quality, safety, and outcomes of care at patient and organizational levels, emphasizing the quality and patient safety movement, improvement science, and evidence based practice. Nursing majors only.

Rules & Requirements
Grading Status: Letter grade.

NURS 875. Teaching Principles and Practices for the Nurse Educator. 3 Credits.
This course will prepare students for teaching in diverse healthcare and educational settings. Emphasis will be placed on the development of skills for teaching in nursing and healthcare to promote ethical, safe, and quality care. Must be a professional nurse enrolled in a graduate program at UNC-CH.

Rules & Requirements
Grading Status: Letter grade.

NURS 876. Curriculum Development in Nursing and Healthcare Education. 3 Credits.
This course will examine curriculum development and evaluation in healthcare education for academic and clinical settings. Emphasis is placed on current contextual influences that facilitate curriculum development, implementation, and evaluation in diverse healthcare educational settings. Must be a professional nurse enrolled in a graduate program at UNC-CH.

Rules & Requirements
Grading Status: Letter grade.

NURS 877. Organization Theory for Managing Complex Health Care Systems. 3 Credits.
This course explores complex health care systems' distinctive structures, processes, and outcomes and how internal and external environmental factors influence health care and nursing practice. Nursing majors only.

Rules & Requirements
Grading Status: Letter grade.

NURS 878. Health Care Leadership and Administration Residency and Integrative Seminar. 6 Credits.
This course is designed to examine evidence-based strategies within health care systems, related to the management of resources, information systems, policies, and delivery of quality, relationship-centered care. Nursing majors only and permission from instructor required.

Rules & Requirements
Requisites: Prerequisites, NURS 872, 873, 874 and 877.
Grading Status: Letter grade.

NURS 879. User-Centered Analysis and Design of Health Care Information Systems and Interfaces. 3 Credits.
This course combines user-centered design theories, the science of systems analysis and design, and usability in health care, supported by real-world exercises in a simulated environment.

Rules & Requirements
Requisites: Prerequisites, NURS 730 and 870; permission of instructor for students lacking the prerequisites.
Grading Status: Letter grade.

NURS 880. Advanced Assessment for Nursing Leadership. 4 Credits.
This course focuses on advanced assessment for identifying evidence-based interventions across a variety of healthcare settings. Emphasis is on the application of tools to implement changes related to care delivery and coordination at the client, unit, and organizational levels.

Rules & Requirements
Grading Status: Letter grade.

NURS 881. Evidence Based Care for Clinical Nurse Leaders. 6 Credits.
Advanced clinical nurse leadership course emphasizing collaboration with key stakeholders to implement evidence-based interventions and improve care delivery in clinical systems.

Rules & Requirements
Requisites: Pre- or corequisites, NURS 715 and 880.
Grading Status: Letter grade.

NURS 882. Clinical Teaching and Evaluation in Nursing Education. 3 Credits.
Prepares students for clinical teaching in diverse nursing education settings. Emphasis will be placed on the development of evidence-based clinical teaching skills designed to facilitate student learning and evaluation as well as safe, ethical, relationship-centered clinical practice of students. Must be a professional nurse enrolled in a graduate program at UNC-CH.

Rules & Requirements
Grading Status: Letter grade.

NURS 899. Special Topics in Nursing. 1-6 Credits.
Special topics with an authority in the field.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

NURS 903. Scientific Reasoning I: Defining and Articulating a Researchable Nursing Problem. 2 Credits.
Introduces scientific reasoning, methods and ethical principles guiding scientific inquiry. Includes an introductory review of the literature and formulation of a researchable problem and purpose statement within a focused area of nursing inquiry.

Rules & Requirements
Requisites: Prerequisite, Enrollment in the SON PhD Program; Corequisite, NURS 913.
Grading Status: Letter grade.

NURS 904. Crafting Effective Health Research Grant Proposals. 3 Credits.
In this course students will apply their foundational knowledge of scientific theory, methods and analysis to design a research proposal. They will generate ideas and drafts of the Specific Aims, Significance, Innovation, and Methods sections of the proposal. While students are encouraged to search and apply for NIH and non-NIH grants, the course will focus on the NIH research proposal since it is the major funding source for health-related biomedical research. The final product will include a full draft of the research plan for an NIH F31 grant proposal or equivalent (e.g., foundation grant, K99).

Rules & Requirements
Requisites: Prerequisite, NURS 912, NURS 913, NURS 916, NURS 917, NURS 926 or permission of instructor.
Grading Status: Letter grade.

NURS 908. Carolina PhD Seminar I: Introduction to Nursing Science and Syndemics. 1 Credits.
Introduces the ontological and epistemological basis of nursing science and the application of syndemic thinking as a lens for conducting nursing science.

Rules & Requirements
Requisites: Prerequisite, Enrollment in the SON PhD Program.
Grading Status: Letter grade.

NURS 909. Multilevel Approaches to Health Equity. 3 Credits.
This course provides a comprehensive introduction to scientific inquiry using a multilevel approach. Fundamental principles around conceptual, theoretical, study design, and analytic perspectives for why and how multilevel approaches are useful for addressing determinants of health and health equity are at the core of covered content.

Rules & Requirements
Requisites: Corequisite, NURS 912 or permission of instructor.
Grading Status: Letter grade.

NURS 910. Carolina PhD Seminar III: Social Determinants of Health. 2 Credits.
Examines social determinants of health at multiple levels, and their interactions, and characteristics that differentiate structural from non-structural social determinants. Enrollment in the SON PhD Program.

Rules & Requirements
Requisites: Prerequisite, NURS 908.
Grading Status: Letter grade.

NURS 911. Carolina PhD Seminar IV: Synthesizing Determinants of Health, Syndemics and Nursing Science. 2 Credits.
Evaluates the interplay among biological, physiological, psychological, behavioral, and social determinants, whether the relationships are consistent with a syndemics framework, and the potential for novel relationships across determinants in these areas to advance nursing science. Enrollment in the SON PhD Program.

Rules & Requirements
Requisites: Prerequisites, NURS 908, NURS 909, and NURS 910.
Grading Status: Letter grade.

NURS 912. Theoretical Foundations of Nursing Inquiry. 3 Credits.
Students develop competence in analyzing and applying philosophical and theoretical orientations as well as in the conduct and critique of scientific and scholarly work. Majors only.

Rules & Requirements
Grading Status: Letter grade.

NURS 913. Knowledge Synthesis: Organizing, Evaluating, and Summarizing Evidence. 3 Credits.
Student develops competence in identifying, organizing, critiquing, and synthesizing the evidence in a focused area. Includes writing a review of the synthesized evidence that serves as a foundation for a publication.

Rules & Requirements
Requisites: Prerequisite, NURS 912 or permission of instructor.
Grading Status: Letter grade.

NURS 915. Transforming Health Systems: Innovation, Implementation Science, and Policy. 3 Credits.
This course introduces students to the principles and concepts of innovation, implementation science, and policy, to transform clinical practice, health systems, and societal health. Students will critically evaluate multi-level contexts, identify strategies to catalyze change, and evaluate impact using relevant theories and frameworks. Applications and skills development will be used to engage students in translating innovations into real-world impact.

Rules & Requirements
Requisites: Prerequisites, NURS 909, 912, 913 and 934, or permission of instructor.
Grading Status: Letter grade.

NURS 916. Qualitative Approaches to Scientific Inquiry. 3 Credits.
This course provides a comprehensive examination of qualitative research methodologies, including qualitative description, grounded theory, ethnography, and narrative inquiry. Students will critically examine the philosophical underpinnings of these approaches and their application to scientific inquiry. Emphasis is placed on designing qualitative studies, with a focus on sampling strategies, data collection techniques, data analysis processes, and the representation of findings. The course also addresses essential considerations for ensuring validity and rigor, ethical research practices, and strategies for managing challenges in qualitative research.

Rules & Requirements
Grading Status: Letter grade.

NURS 917. Quantitative Approaches to Scientific Inquiry. 3 Credits.
This course offers an in-depth introduction to quantitative research methods. It focuses on designing studies, including descriptive, associational, explanatory, and predictive designs, as well as sampling, measurement, data collection, analysis, and result interpretation. Students will explore the philosophical foundations of these methods and their application in scientific inquiry. The course also covers key aspects of validity, rigor, ethical practices, and strategies for overcoming challenges in quantitative research.

Rules & Requirements
Requisites: Corequisite, NURS 926.
Grading Status: Letter grade.

NURS 918. Intermediate Statistics: Regression Analysis. 3 Credits.
Focuses on the use of advanced regression techniques to analyze various types of response variables with multiple predictors, interaction terms, or longitudinal data. Permission of Instructor.

Rules & Requirements
Grading Status: Letter grade.

NURS 920. Theoretical Foundations of Advanced Practice. 3 Credits.
This course provides a foundation philosophy of science, examines the elements and utility of theory, and explores key theories of practice, including theories from nursing and other disciplines. Admission to Nursing graduate program required.

Rules & Requirements
Grading Status: Letter grade.

NURS 921. Theoretical Principles of Evidence-Based Practice. 3 Credits.
This course is an analysis of the theoretical principles of translating, disseminating, and implementing evidence into healthcare practice. Students will evaluate major theoretical and conceptual models in the fields of translational science, dissemination and implementation, organizational change, and quality improvement. Nursing majors only.

Rules & Requirements
Grading Status: Letter grade.

NURS 922. Critical Appraisal of Evidence. 3 Credits.
This foundational course is focused on identification of a practice problem and systematically searching, appraising, and synthesizing a body of evidence to support practice change. Nursing Majors Only.

Rules & Requirements
Requisites: Pre- or corequisite, NURS 921.
Grading Status: Letter grade.

NURS 923. Implementation and Evaluation of Evidence-Based Practice. 3 Credits.
This course focuses on evidence-based implementation and evaluation strategies for development of methodologies for planning, implementing and evaluating a sustainable practice change project that emphasizes quality and safety principles. Nursing Majors Only.

Rules & Requirements
Requisites: Prerequisite, NURS 922; Pre- or corequisites, NURS 921 and 969.
Grading Status: Letter grade.

NURS 924. Experiential Learning I: Statistical Analysis. 1 Credits.
This course will introduce and prepare students for biostatistical computing of quantitative data using mainly SAS statistical software. It builds on the knowledge obtained in NURS 916: Design Measurement and Analysis: Descriptive & Associational Research by reinforcing the material and focusing on application within the SAS framework. Course prepares students for future SAS programming and analysis needs in NURS 917: Design Measurement and Analysis: Explanatory and Predictive Research and NURS 918: Intermediate Statistics: Regression Analysis.

Rules & Requirements
Requisites: Prerequisite, Enrollment in the SON PhD Program; Corequisite, NURS 916.
Grading Status: Letter grade.

NURS 926. Foundations of Statistical Analysis. 3 Credits.
This course provides a comprehensive introduction to statistical analysis for quantitative data, combining theoretical concepts with practical applications through various software programs (e.g., SAS, G*Power, and nQuery). Students will learn core methods such as descriptive statistics, hypothesis testing, t-tests, ANOVA, chi-square tests, and correlation, along with an introduction to advanced topics like regression, moderation, mediation, sample size calculation, and handling missing data. Emphasis is placed on interpreting statistical results, data visualization, and communicating APA-style results.

Rules & Requirements
Requisites: Corequisite, NURS 917.
Grading Status: Letter grade.

NURS 934. Clinical Scholarship and Professional Communication. 3 Credits.
This course provides students with a foundation in professional communication of scholarly and clinical work through a variety of strategies. Nursing majors only.

Rules & Requirements
Grading Status: Letter grade.

NURS 935. Leading Organizational and Systems Change. 3 Credits.
This course provides a foundation for the application of core leadership principles to lead organizational change within complex and dynamic healthcare systems. Students will gain competencies in the application of macro-level leadership tools (e.g., organizational assessment, systems thinking, strategic planning, workforce management, and organizational policy development and analysis) to address service delivery challenges and drive organizational change, with a particular focus on quality improvement and patient safety initiatives. Nursing majors only.

Rules & Requirements
Grading Status: Letter grade.

NURS 936. Informatics for Safe and Effective Health Care. 3 Credits.
This course prepares health care leaders to effectively select, implement and utilize health information systems for effective delivery of health care services and promote quality, safety and patient engagement.

Rules & Requirements
Grading Status: Letter grade.

NURS 938. Public Policy and Advocacy in Health Care. 3 Credits.
This course examines the intersection of health policy development, advocacy and nursing as a means of impacting the health of populations at the local, state, national and/or international level. Emerging issues in health policy will be explored with an emphasis placed on transformational leadership principles as a means of influencing change. Nursing majors only.

Rules & Requirements
Requisites: Prerequisite, NURS 967.
Grading Status: Letter grade.

NURS 939. Advanced Leadership I: Operational Effectiveness. 3 Credits.
This course allows the learner to examine personal values, strengths, weaknesses, opportunities, and threats as they relate to successful leadership practices and behaviors in complex health care organizations. Nursing majors only.

Rules & Requirements
Grading Status: Letter grade.

NURS 940. Advanced Leadership II: Strategic Effectiveness. 3 Credits.
This course builds upon foundational leadership knowledge to incorporate executive practices essential to successfully leading larger health care delivery systems and health professions organizations into the future. Nursing majors only.

Rules & Requirements
Requisites: Prerequisite, NURS 939.
Grading Status: Letter grade.

NURS 941. Practice Inquiry I. 2 Credits.
Course and project hours focused on identifying an evidence-based clinical practice question and resources necessary to support the DNP Project.

Rules & Requirements
Requisites: Pre- or corequisite, NURS 778; permission of the instructor for students lacking the pre- or corequisite.
Grading Status: Letter grade.

NURS 942. Practice Inquiry II. 2 Credits.
Course and project hours focused on methodologies for planning and implementing the DNP Project.

Rules & Requirements
Requisites: Pre- or co-requisites, NURS 778, 779, 941; Permission of the instructor for students lacking the prerequisites or co-requisites.
Grading Status: Letter grade.

NURS 943. Practice Inquiry III. 2 Credits.
Course and project hours focused on issues related to the implementation, evaluation, and dissemination findings of the DNP Project.

Rules & Requirements
Requisites: Pre- or corequisites, NURS 778, 779, 941, 942, and 994; permission of the instructor for students lacking the pre- or corequisites.
Grading Status: Letter grade.

NURS 945. Population Health in a Global Context. 3 Credits.
This course analyzes the complexities that contribute to the health of populations in a local to global context. This course will prepare leaders to integrate evidence-based approaches that impact the health of populations, building upon skills and knowledge developed throughout the program. Nursing majors only.

Rules & Requirements
Grading Status: Letter grade.

NURS 950. Analysis of the Academic Role in Nursing Education. 3 Credits.
Knowledge, theories, and skills necessary for transition into an academic teaching role in university schools of nursing. Particular emphasis on the teaching-learning process as used in higher education.

Rules & Requirements
Grading Status: Letter grade.

NURS 951. Mentored Teaching Practicum. 1-3 Credits.
Admission to the PhD program in nursing and successful completion of qualifying examination. Permission of the instructor for students lacking the prerequisites. Application of educational theory and methods in teaching activities with mentor. Provides opportunities to analyze course design, implement objectives, evaluate student competencies, and practice in teaching methods.

Rules & Requirements
Requisites: Prerequisites, NURS 875 or NURS 950.
Repeat Rules: May be repeated for credit. 3 total credits. 3 total completions.
Grading Status: Letter grade.

NURS 957. From Theory to Intervention and Implementation. 3 Credits.
Required preparation, NURS 912 or graduate level theory course. In-depth exploration of selected programmatic research in nursing and related fields on prevention and management of chronic conditions in order to generate and evaluate treatment theory and intervention protocol.

Rules & Requirements
Grading Status: Letter grade.

NURS 958. Designing Intervention Studies. 3 Credits.
Examines methodological, ethical, and practical issues in the design and implementation of theory-based intervention studies.

Rules & Requirements
Requisites: Prerequisite, NURS 957; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

NURS 960. Proseminar in Nursing. 1-3 Credits.
Proseminars are offered for one, two, or three credits. Topics differ each semester.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 3 total credits. 3 total completions.
Grading Status: Letter grade.

NURS 963. Writing for Publication. 3 Credits.
In this course, students apply principles and practices of writing to the preparation of manuscripts for publication.

Rules & Requirements
Grading Status: Letter grade.

NURS 965. Issues in Gerontological and Geriatric Research. 3 Credits.
This course is designed to enhance the student's knowledge of relevant issues researchers face when planning, designing, and implementing research with an older adult population.

Rules & Requirements
Grading Status: Letter grade.

NURS 966. Implementing Health System Innovations in Complex Organizations. 4 Credits.
Explores the application of implementation science and other relevant theory, focusing on the role of the executive nurse in integrating innovations into complex systems.

Rules & Requirements
Requisites: Pre- or corequisite, NURS 779, 871, 873, 874; permission of the instructor for students lacking the pre- or corequisites.
Grading Status: Letter grade.

NURS 967. Economics and Financing of Health Care Systems. 3 Credits.
This course examines economic and finance principles in health care from various perspectives including small to large healthcare organizations. Students will gain an understanding of the perspective of economics in the allocation of resources in the healthcare sector. Nursing majors only.

Rules & Requirements
Grading Status: Letter grade.

NURS 968. Writing the Pre-/Post-Doctoral Training Plan for a Research Intensive Career. 2 Credits.
Explore components of and rationale for a pre-/post-doctoral training plan and its relevance for planning a research intensive career. Students will write a personalized training plan following grant criteria.

Rules & Requirements
Requisites: Prerequisite, Graduate status or permission of the instructor; NURS 959 or equivalent (including postdoctoral status); permission of primary mentor.
Grading Status: Letter grade.

NURS 969. Applied Data Analysis. 3 Credits.
This course focuses on the application of statistical concepts to the analysis of health care data and includes evaluation and presentation of the results.

Rules & Requirements
Grading Status: Letter grade.

NURS 978. Measurement and Data Quality in Health Research. 3 Credits.
This course will examine the links between measurement theory and practice, emphasizing study design, data collection methods, and data quality. Students will critically evaluate concepts underlying measurement reliability and validity and explore the construction of measurement tools and their use in quantitative research. The course will incorporate a combination of theory, methods, and practical skill development, including training in statistical software (e.g., SAS, SPSS, or Stata) for factor analysis and computation of reliability measures. Students will be prepared to critically evaluate methodological issues in quantitative measurement and develop measurement approaches for research proposals. Permission of the instructor for students lacking the required preparation.

Rules & Requirements
Requisites: Prerequisites, NURS 913, NURS 917, and NURS 926.
Grading Status: Letter grade.

NURS 979. Qualitative Analysis. 3 Credits.
Required preparation, doctoral level qualitative methods course or NURS 977. Emphasizes the work of analysis and interpretation. Students apply relevant qualitative techniques to their own data.

Rules & Requirements
Grading Status: Letter grade.

NURS 985. Research Seminar and Practicum: Guided Individual Research Experience. 1-6 Credits.
Directs students to develop research skills related to the dissertation and to their future research.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

NURS 986. Elective Doctor of Nursing Practice Residency. 1-3 Credits.
This course focuses on the synthesis of knowledge related to advanced practice, practice leadership, and practice inquiry and is composed of a residency related to the DNP project.

Rules & Requirements
Requisites: Prerequisites, NURS 941, 942 or 943.
Repeat Rules: May be repeated for credit. 6 total credits. 3 total completions.
Grading Status: Letter grade.

NURS 992. Master's (Non-Thesis). 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

NURS 993. Master's Research and Thesis. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

NURS 994. PhD Dissertation/DNP Project. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

Contact Information

School of Nursing
Visit Program Website (http://nursing.unc.edu)

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DEPARTMENT OF NUTRITION (GRAD)

The Gillings School's Department of Nutrition is a global leader in research and training. The department is the only nutrition department in the United States situated in both a school of public health and a school of medicine. Members engage in innovative work that capitalizes on both these schools' approaches to health, and thus the department has an unusual breadth of scientific and policy approaches. The department's faculty expertise spans from cell to society and moves from discovery to delivery. The faculty and students work throughout North Carolina and reach populations in China, India, Malawi, Spain, and the Philippines, to name a few.

The Department of Nutrition's mission is to improve and protect the public's health through teaching, research, and practices that foster optimal nutrition. Our vision is to achieve optimal nutrition for all people around the globe.

Master of Public Health (M.P.H.)

The redesigned UNC Gillings School of Global Public Health's master of public health (M.P.H.) program is for people who are passionate about solving urgent local and global public health problems. With a legacy of outstanding education, cutting edge research and globally-recognized leadership, the UNC Gillings School is creating the next generation of public health leaders through our integrated training program and 21st century curriculum. The Department of Nutrition hosts the Nutrition, Food Systems and Health Concentration as well as the Nutrition and Dietetics Concentration. Upon successful completion of the program, Nutrition and Dietetics concentration graduates will be eligible to take the Commission on Dietetic Registration (CDR) credentialing exam to become a Registered Dietitian Nutritionist.

Prerequisite courses that must be complete prior to starting the **Nutrition and Dietetics Concentration** are: Chemistry 1*, Chemistry 2*, Organic Chemistry*, Biochemistry*, Human Anatomy*, Human Physiology*, Microbiology with Lab, Human Nutrition, General Psychology, Intro to Anthropology or Sociology

*For these courses, a lab is recommended but not required for admission. Microbiology lab is required.

Master of Science (M.S.)

The MS degree in Nutrition is offered to those students who wish to increase their knowledge of nutrition science and to acquire skills in laboratory and/or population-based research. This degree is useful for students interested in nutrition research or in career in industry, as well as for students considering pursuit of a doctoral degree in medicine or in other areas of public health and biomedical sciences. MS students will perform advanced research in nutrition and take graduate nutrition courses that will provide the information and experience needed to help them choose their career path. Additionally, for those students who are uncertain about whether they wish to enter the Department's Doctoral program, the MS program offers an excellent opportunity to determine whether a more advanced degree would be appropriate. In summary, the MS program in Nutrition provides students the opportunity to explore nutrition at an advanced level.

Prerequisite courses that must be complete prior to starting the program are: Anatomy and Physiology, Organic Chemistry, Biochemistry, Human Nutrition

The MS is also offered as a dual degree program with the BSPH in Nutrition. The program can be completed in one calendar year (summer, fall, spring) following completion of the BSPH in Nutrition program.

Doctor of Philosophy (PhD)

The doctor of philosophy (Ph.D.) in the Department of Nutrition develops students' research and teaching skills through coursework, research, practice opportunities and preliminary doctoral examinations. Together, these experiences prepare graduates for careers in scientific research or teaching at universities, in federal or state agencies, and in industry or private research institutions. Students may minor in other fields, such as epidemiology. Doctoral program opportunities are available at the UNC–Chapel Hill campus and the Nutrition Research Institute (NRI).

Prerequisite courses that must be complete prior to starting the program are: Anatomy and Physiology, Organic Chemistry, Biochemistry, Human Nutrition

Nutrition, Master's Program (M.S.)

The MS degree in Nutrition is offered to those students who wish to increase their knowledge of nutrition science and to acquire skills in laboratory and/or population-based research. This degree is useful for students interested in nutrition research or in career in industry, as well as for students considering pursuit of a doctoral degree in medicine or in other areas of public health and biomedical sciences. MS students will perform advanced research in nutrition and take graduate nutrition courses that will provide the information and experience needed to help them choose their career path. Additionally, for those students who are uncertain about whether they wish to enter the Department's Doctoral program, the MS program offers an excellent opportunity to determine whether a more advanced degree would be appropriate. In summary, the MS program in Nutrition provides students the opportunity to explore nutrition at an advanced level.

The MS is also offered as a dual degree program with the BSPH in Nutrition. The program can be completed in one calendar year (summer, fall, spring) following completion of the BSPH in Nutrition program.

Course Requirements

Code	Title	Hours
Public Health Foundation Courses		
SPHG 600	Introduction to Public Health [1]	3
Core Courses		
BIOS 600	Principles of Statistical Inference	2-3
or BBSP 710	Biostatistics for Laboratory Scientists	
NUTR 600	Human Metabolism: Macronutrients	3
NUTR 620	Human Metabolism: Micronutrients	3
NUTR 622	Nutrition Research Seminar	1
NUTR 765	Nutritional Epidemiology for Master's Students	3
or EPID 600	Principles of Epidemiology for Public Health	
or EPID 710	Fundamentals of Epidemiology	
NUTR 910	Nutrition Research [2]	12
Electives		
Any substantive nutrition course of at least 2 credits [3]		9
Thesis/Substitute or Dissertation		

NUTR 993	Master's Research and Thesis	3
Minimum Hours		**39-40**

1 Students with a prior public health degree are not required to take SPHG 600; exemptions are available for those with non-public health degrees from accredited SPHs. Students should discuss with their Academic Coordinator.

2 NUTR 910 is a repeatable course every semester for 3 credit hours, for a minimum of 12 credit hours.

3 See list of Substantive Nutrition Course Options below.

Substantive Nutrition Course Options

Code	Title	Hours
NUTR 812	Introduction to Obesity: Cell to Society	3
NUTR 805	Nutrition Policy	3
NUTR 723	Community Nutrition	3
NUTR 770	Clinical Trials in Nutrition	3
NUTR 715	Medical Nutrition Therapy 2	4
NUTR 711	Nutrition Across the Lifecycle	3
NUTR 705	Human Nutrition	3
NUTR 865	Advanced Nutritional Biochemistry: Nutrigenomics and Precision Nutrition	2
NUTR 765	Nutritional Epidemiology for Master's Students	3
NUTR 745	International Nutrition	3
NUTR 749	mHealth for Behavior Change	2
EPID 710	Fundamentals of Epidemiology	3
EPID 716	Epidemiologic Data Analysis	3
BIOC 706	Biochemistry of Human Disease	3
PATH 725	Cancer Pathobiology	3
MHCH 722	Global Maternal and Child Health	3
MHCH 851	Reproductive and Perinatal Epidemiology	3
HPM 758	Underserved Populations and Health Reform	3
HBEH 765	Cancer Prevention and Control Seminar	3
HBEH 749	mHealth for Behavior Change	2
EPID 711	Clinical Measurement and Evaluation	3
EPID 715	Theory and Quantitative Methods in Epidemiology	4
EPID 760	Vaccine Epidemiology	3
EPID 772	Cancer Prevention and Control Seminar	3
EPID 718	Analytic Methods in Observational Epidemiology	3

Milestones

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 27) for more information.

- Master's Committee
- Master's Oral Exam / Approved Substitute
- Thesis/Substitute Defense
- Master's Thesis Approved
- Residence Credit
- Exit Survey

Master of Public Health (M.P.H.) Nutrition & Dietetics Concentration Description

The Master of Public Health (MPH) in Nutrition was the first degree offered by the Department of Nutrition. Since the first three students received their MPH degrees in 1951, the program enrolls cohorts of about 40 residential students per year. Beginning in 2018, The Nutrition and Dietetics concentration at The Gillings School of Global Public Health at the University of North Carolina at Chapel Hill is one of the first in the country to be an ACEND®-accredited Future Education Model program. The program is recognized throughout the United States for the excellence of its training in public health nutrition. The Commission on Dietetic Registration will require a minimum of a master's degree to take the credentialing exam for registered dietitians beginning on January 1, 2024.

Nutrition is recognized as one of the most important environmental determinants of health throughout the life cycle. It is a key factor in successful pregnancy outcomes, in the physical and mental development of infants and children, and in promoting health throughout the lifespan. Current research stresses nutrition and diet as critical factors in the prevention and treatment of most chronic diseases, including obesity, heart disease, cancer, stroke, diabetes, and osteoporosis. The safety, quality, quantity, and distribution of local, national and world food supplies are major public policy issues.

Completion of the MPH with a concentration in Nutrition and Dietetics provides the graduate with a strong background in the science and practice of public health along with a sound knowledge of the science of human nutrition and food science. Students complete the degree as well as all related internship training within two years and are then eligible to sit for the CDR exam to become a Registered Dietitian.

The mission of the Nutrition and Dietetics concentration in Public Health Nutrition is to prepare registered dietitians to be leaders in nutrition and dietetics through effective classroom education and practical community and clinical experiences both locally and globally.

Course Requirements

Requirements for the **M.P.H.** degree in the **Nutrition & Dietetics** concentration

Code	Title	Hours
M.P.H. Integrated Core		
SPHG 711	Data Analysis for Public Health	2
SPHG 712	Methods and Measures for Public Health Practice	2
SPHG 713	Systems Approaches to Understanding Public Health Issues	2
SPHG 721	Public Health Solutions: Systems, Policy and Advocacy	2
SPHG 722	Developing, Implementing, and Evaluating Public Health Solutions	4
M.P.H. Concentration		
NUTR 709	Medical Nutrition Therapy 1	3
NUTR 712	Nutrition Communication, Counseling and Culture	3
NUTR 714	Nutritional Biochemistry, Metabolism and Health	3
NUTR 715	Medical Nutrition Therapy 2	4
NUTR 723	Community Nutrition	3
NUTR 760 & 760L	Food Science and Food Science Laboratory	3

NUTR 765	Nutritional Epidemiology for Master's Students	3
NUTR 805	Nutrition Policy	3
Food Service Management Experience Summer 1		
Clinical Nutrition Field Experience Summer 1		
Public Health Nutrition Management Field Experience Summer 2		
Advanced Nutrition Placement Summer 2		
M.P.H. Practicum		
SPHG 701	Leading from the Inside-Out	2
Practicum: 200 minimum hours		
M.P.H. Culminating Experience		
NUTR 992	Master's (Non-Thesis)	3
Total Hours		**42**

Admissions

Please visit Applying to the Gillings School (https://sph.unc.edu/students/how-to-apply/) first for details and information. Application to the residential M.P.H. is a 2-step process. Please apply separately to (1) SOPHAS and (2) UNC–Chapel Hill (via the Graduate School application link that will be sent after completing the SOPHAS application). Visit the Graduate School Web site (https://gradschool.sites.unc.edu/master-of-public-health/) for more details. If you are interested in the online M.P.H., please visit the MPH@UNC (https://onlinemph.unc.edu/) website and fill out an inquiry form.

Milestones

- Master's Committee
- Master's Written Examination/Approved Substitute (Comprehensive Exam)
- Thesis Substitute (Culminating Experience)
- Residence Credit
- Exit Survey
- Master's Professional Work Experience (Practicum)

Recommended Checklist

Code	Title	Hours
Supervised Experiential Learning		
Food Service Placement		
Clinical Nutrition Placement		
Public Health Placement		
Advanced Placement		

Public Health, Master's Program (M.P.H.) — Nutrition, Food Systems and Health Concentration

Our mission is to improve and protect the public's health through teaching, research and practices that foster optimal nutrition. To that end, the Nutrition concentration, offered on-campus and online (https://sph.unc.edu/resource-pages/master-of-public-health/nutrition-concentration/#twou-form-2136-xdkefq), focuses on nutrition science, as well as on behavior change, communication, advocacy, policy and the effects of dietary culture on the individual and within the community.

Course Requirements

Requirements for the **M.P.H.** degree in the **Nutrition** concentration

Code	Title	Hours
M.P.H. Integrated Core		
SPHG 711	Data Analysis for Public Health Fall 1	2
SPHG 712	Methods and Measures for Public Health Practice Fall 1	2
SPHG 713	Systems Approaches to Understanding Public Health Issues Fall 1	2
SPHG 701	Leading from the Inside-Out Spring 1	2
SPHG 721	Public Health Solutions: Systems, Policy and Advocacy Spring 1	2
SPHG 722	Developing, Implementing, and Evaluating Public Health Solutions (MPH Comprehensive Exam administered in class) Spring 1	4
M.P.H. Practicum		
SPHG 703	MPH Pre-Practicum Assignments Spring 1	0.5
SPHG 707	MPH Post-Practicum Assignments Fall 2	0.5
M.P.H. Concentration		
NUTR 713	Nutrition Communication, Culture and Equity Fall 1	3
NUTR 711	Nutrition Across the Lifecycle Fall 2	3
NUTR 723	Community Nutrition Fall 2	3
NUTR 805	Nutrition Policy Fall 2	3
NUTR 765	Nutritional Epidemiology for Master's Students Spring 2	3
M.P.H. Electives		
Elective (Graduate-level courses, 400+ level at Gillings, 500+ level at UNC)		3
Elective (Graduate-level courses, 400+ level at Gillings, 500+ level at UNC)		3
Elective (Graduate-level courses, 400+ level at Gillings, 500+ level at UNC)		3
M.P.H. Culminating Experience		
SPHG 992	Master's (Non-Thesis) (Nutrition MPH Culminating Experience) Spring 2	3
Total Hours		**42**

Competencies

Students will develop the following **Nutrition competencies**, building on the foundational public health knowledge they attain in the Gillings M.P.H. Integrated Core courses.

Column 1	Column 2
NUTR01.	Assess the scientific evidence for nutritional guidelines/ recommendations.
NUTR02.	Assess dietary intake and nutrition status of individuals and populations.
NUTR03.	Evaluate how social, cultural, environmental, and community factors have an impact upon dietary intake and nutrition-related outcomes in individuals, families, and communities.

NUTR04.	Independently plan, develop, and evaluate nutrition-related health promotion/disease prevention services, products, programs, or interventions (including policy analysis), using appropriate evidence or data.
NUTR05.	Demonstrate proficiency in writing evidence-based nutrition-related professional and consumer communications, using a variety of communication platforms.
NUTR06.	Gain a foundational knowledge of public and global health issues, policies, and nutritional needs.

Admissions

Please visit Applying to the Gillings School (https://sph.unc.edu/students/how-to-apply/) first for details and information. Application to the residential M.P.H. is a 2-step process. Please apply separately to (1) SOPHAS and (2) UNC–Chapel Hill (via the Graduate School application). Visit the Graduate School website (https://gradschool.sites.unc.edu/master-of-public-health/) for more details. If you are interested in the online M.P.H., please visit the MPH@UNC (https://onlinemph.unc.edu/) website and fill out an inquiry form.

Milestones

- Master's Committee
- Master's Written Examination/Approved Substitute (Comprehensive Exam)
- Thesis Substitute (Culminating Experience)
- Residence Credit
- Exit Survey
- Master's Professional Work Experience (Practicum)

Dual-Degree Programs

- **Bachelor (B.S.P.H. in Nutrition) + M.S. in Nutrition**

  The M.S. is also offered as a dual degree program with the B.S.P.H. in Nutrition. The program can be completed in one calendar year (summer, fall, spring) following completion of the B.S.P.H. in Nutrition program.

Nutrition, Doctoral Program (Ph.D.)

The doctor of philosophy (Ph.D.) in the Department of Nutrition develops students' research and teaching skills through coursework, research, practice opportunities and preliminary doctoral examinations, and original research presented in a doctoral dissertation. Together, these experiences prepare graduates for careers in scientific research or teaching at universities, in federal or state agencies, and in industry or private research institutions. Students may minor in other fields, such as epidemiology. Doctoral program opportunities are available at the UNC–Chapel Hill campus and the Nutrition Research Institute (NRI).

Course Requirements

Code	Title	Hours
School of Public Health Core Course [1]		
SPHG 600	Introduction to Public Health [2]	3
Core Courses [1]		
Choose one of the following Nutrition course options:		3-6
NUTR 714	Nutritional Biochemistry, Metabolism and Health [3]	
NUTR 600 & NUTR 620	Human Metabolism: Macronutrients and Human Metabolism: Micronutrients [3]	
NUTR 770	Clinical Trials in Nutrition	3
Choose of of the following Epidemiology Courses:		3
NUTR 765	Nutritional Epidemiology for Master's Students [4]	
or NUTR 816	Applications in Nutrition Epidemiology	
or EPID 710	Fundamentals of Epidemiology	
NUTR 885	Doctoral Seminar (Two semesters for 4 credits total)	4
Choose one of the following Biostatistics Courses:		2-3
BIOS 600	Principles of Statistical Inference	
or BIOS 645	Principles of Experimental Analysis	
or BBSP 710	Biostatistics for Laboratory Scientists	
NUTR 880	Elements of Being a Scientist [5]	3
Electives		
Specialization Requirements (minimum of 25 credit hours):		
NUTR 910	Nutrition Research	16
These include a minimum of 9 credit hours in courses that develop a specific substantive or methodology expertise and a minimum of 16 credit hours in research rotations or mentored research with faculty taken as NUTR 910.		9
Thesis/Substitute or Dissertation		
NUTR 994	Doctoral Research and Dissertation (Two semesters for 3 credits each)	6
Minimum Hours		**52-56**

1 All **core courses**, including the SPHG requirement, must be completed prior to taking the doctoral comprehensive examinations (typically at the end of the Spring semester following the second year of study).

2 Students with a prior public health degree are not required to take SPHG 600; exemptions are available for those with non-public health degrees from accredited SPHs. Students should discuss with their Academic Coordinator.

3 Students intending to pursue a population-focused program related to nutrition interventions and policy have an additional option to substitute NUTR 714 for the NUTR 600/620 core course requirement. This substitution requires approval of the student's advisor and the Doctoral Committee.

4 NUTR 765 is intended for students with no prior coursework in Epidemiology. Students with a prior course in Epidemiology should take NUTR 816. Students intending to complete the Epidemiology minor should take EPID 710.

5 Students must have completed all core course requirements and have passed the doctoral comprehensive examinations to enroll in NUTR 880.

Milestones

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 27) for more information.

- Doctoral Committee
- Doctoral Oral Comprehensive Exam

- Doctoral Written Exam
- Prospectus Oral Exam
- Advanced to Candidacy
- Dissertation Defense
- Doctoral Dissertation Approved/Format Accepted
- Residence Credit
- Exit Survey
- Doctoral IRB Compliance
- Doctoral Intradepartmental Review
- Doctoral Teaching Experience

Distinguished Professors

Linda Adair, Carla Smith Chamblee Distinguished Professor, Director of Graduate Studies
Alice Ammerman, Mildred Kaufman Distinguished Professor
Penny Gordon-Larsen, W. R. Kenan, Jr. Distinguished Professor, Vice Chancellor for Research
Stephen Hursting, AICR/WCRF Distinguished Professor
Elizabeth Mayer-Davis, Cary C. Boshamer Distinguished Professor, Dean of Graduate School
Barry Popkin, W.R. Kenan Jr. Distinguished Professor
Susan Smith, Dickson-Harris Teeter Distinguished Professor

Professors

Andrea M. Azcarate-Peril*
Cynthia Bulik*
Shufa Du
Anthony Hackney*
Thomas Keyserling*
Sergey Krupenko
Nobuyo Maeda*
ShuWen Ng
S. Raza Shaikh, Chair
Abbie Smith-Ryan*
Mirek Styblo
Susan Sumner
Deborah Tate
Amanda Thompson*
Saroja Voruganti

Associate Professors

John Batsis*
Melissa Bauserman*
Ian Carroll, B.S.P.H. and M.S. Program Co-Director
Amanda Holliday, M.P.H.-N&D Program Director
Folami Ideraabdullah*
Natalia Krupenko
Sandra Mooney
Carmen Samuel-Hodge
Lindsey Smith Taillie, Associate Chair for Academics
Kimberly Truesdale, M.P.H.-NUTR Program Director
Carmina Valle, Associate Chair for Research

Assistant Professors

Seema Agrawal
Ximena Bustamante Marin, B.S.P.H. and M.S. Program Co-Director
Michael Coleman
Molly De Marco
Beth Jenks
Anna Kahkoska
Stephanie Martin
Kamaria Mason
Katie Meyer
Brooke Nezami
Wimal Pathmasiri
Blake Rushing
Nipun Saini
Jessica Soldavini
Isis Trujillo
Matthew Ulgherait
Heather Wasser

*Primary appointment is in another UNC department, faculty's secondary appointment is Nutrition.

NUTR

Advanced Undergraduate and Graduate-level Courses

NUTR 400. Introduction to Nutritional Biochemistry. 3 Credits.
Function of the human body focusing on chemical properties, function, and metabolism of nutrients. Biochemistry of nutrients with a limited focus on medical aspects of nutrient metabolism. For advanced undergraduates and graduate students needing to enhance background prior to NUTR 600.

Rules & Requirements
Requisites: Prerequisites, BIOL 101, CHEM 101 and 102, and NUTR 240; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

NUTR 405. Fundamentals of Food and Nutrition Policy in Public Health. 3 Credits.
This course focuses on food and nutrition policy on a federal, state, and local level. Topics covered include policy formation, interest/consumer advocacy groups, key legislation, how research informs policy, equity and diversity, global food policy issues, sustainability and health, advocacy, and current public health nutrition policy hot topics and examples.

Rules & Requirements
Grading Status: Letter grade.

NUTR 470. Foundations of Nutrition Interventions. 3 Credits.
This course is designed to introduce students to clinical trials in nutrition, including experimental designs, nutrition intervention methods, and skills necessary to critically analyze, describe, and evaluate feeding and behavioral nutrition interventions. The course covers concepts, skills and methods related to nutrition interventions, with an emphasis on theory-based interventions at the individual, community, or environmental levels to improve health and nutrition outcomes.

Rules & Requirements
Grading Status: Letter grade.

NUTR 600. Human Metabolism: Macronutrients. 3 Credits.
Cell biochemistry and physiology emphasizing integration of proteins, carbohydrates, and lipids in whole-body metabolism; regulation of energy expenditure, food intake, metabolic adaptations, and gene expression; and macronutrient-related diseases (atherosclerosis, obesity).

Rules & Requirements
Requisites: Prerequisite, NUTR 400; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

NUTR 611. Food And Your Life Stages. 3 Credits.
This course covers nutrition during the life cycle. Units include women during preconception, pregnancy, and lactation; infancy; childhood; adolescence; and older adults (65+). Nutrient and energy needs, assessment of nutritional status, and cultural and socioeconomic barriers are discussed for each phase.

Rules & Requirements
Requisites: Prerequisite, NUTR 240.
Grading Status: Letter grade.
Same as: MHCH 611.

NUTR 620. Human Metabolism: Micronutrients. 3 Credits.
Cell biochemistry and physiology emphasizing metabolism of vitamins and minerals including antioxidant protection, immune function, nutrient control of gene expression, and disease states induced by deficiencies (e.g., iron-deficient anemia).

Rules & Requirements
Requisites: Prerequisites, NUTR 400 and 600; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

NUTR 622. Nutrition Research Seminar. 1 Credits.
The changing landscape of nutritional science research has increased the demand for early-career researchers to be more transdisciplinary, perform highly rigorous research, and be prepared for less-traditional research positions. This course is designed to introduce first-year undergraduate BSPH nutrition students to the foundations of nutrition research. It provides an introduction to nutrition research topics, research methods, study design, research ethics, and the generation and development of research questions within the context of nutrition science. This course also covers aspects of professionalism in public health.

Rules & Requirements
Grading Status: Letter grade.

NUTR 630. Navigating Culture, Technology, and Communication in Nutrition. 3 Credits.
In the course, students will explore cultural foodways and regional food practices. Students will examine the influence of technology and social media on effective communication and nutrition messaging. Emphasis will be placed on cultural awareness and leveraging digital platforms in nutrition practice. Students will learn how to frame messages for individuals, groups, and broader public audiences.

Rules & Requirements
Requisites: Prerequisite, NUTR 240; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

NUTR 646. Mouse Models of Human Disease. 1 Credits.
This course will focus on the laboratory mouse as a model organism to learn fundamental genetic concepts and understand how state-of-the-art experimental approaches are being used to elucidate gene function and the genetic architecture of biological traits.

Rules & Requirements
Grading Status: Letter grade.
Same as: GNET 646.

NUTR 660L. Food Service Systems Management Experience. 1 Credits.
This is a food service management practicum that applies the basic concepts of institutional food service systems. Two laboratory hours per week.

Rules & Requirements
Requisites: Co-requisite, NUTR 660.
Grading Status: Letter grade.

NUTR 691H. Honors Research in Nutrition. 3 Credits.
This is an honors course for research for the first semester of senior year, to be followed by NUTR 692H in the second semester. NUTR 691H/692H is a two-course sequence. Enrollment is only for students approved to conduct a senior honors thesis project.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Requisites: Prerequisite, NUTR 295.
Grading Status: Letter grade.

NUTR 692H. Honors Research in Nutrition. 3 Credits.
Permission of the instructor. Directed readings or laboratory study of a selected topic. Requires a written proposal to be submitted to and approved by the B.S.P.H. Committee and faculty research director. A written report is required. May be taken more than once for credit. Six laboratory hours per week.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

NUTR 695. Nutrition Research. 1-9 Credits.
Permission of the instructor. Individual arrangements with faculty for bachelor and master students to participate in ongoing research.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 8 total completions.
Grading Status: Letter grade.

NUTR 696. Readings in Nutrition. 1-9 Credits.
Permission of the instructor. Reading and tutorial guidance in special areas of nutrition.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 8 total completions.
Grading Status: Letter grade.

Graduate-level Courses

NUTR 701. Nutrition Practicum Preparation. 2 Credits.
This course provides support for the practicum process and trains students on how to ethically, meaningfully, and professionally engage and prepare for practicum placements. Students will learn how to work within their organization and their stakeholders through building skills in leadership and interprofessional practice. Additionally, students will sharpen their clinical skills in preparation for their hospital-based experience and include mandatory on-boarding requirements.

Rules & Requirements
Requisites: Prerequisite, SPHG 711, SPHG 712, SPHG 713.
Grading Status: Letter grade.

NUTR 705. Human Nutrition. 3 Credits.
Fundamental scientific premises of human nutrition. This course covers the basic concepts of macro and micronutrients, food sources, and the evidence-based requirements for a healthy diet. This course integrates nutritional needs of populations, with an emphasis on nutrition-related diseases, including over and undernutrition.

Rules & Requirements
Grading Status: Letter grade.

NUTR 709. Medical Nutrition Therapy 1. 3 Credits.
A lecture and skills course where students practice skills used in nutrition therapy and the Nutrition Care Process (such as calculating caloric intake, modifying intake, calculating sodium content of intakes, carbohydrate counting, exchanges, etc.) under the supervision of a Registered Dietitian. This course covers nutrition during the life cycle. Units include women during preconception, pregnancy, and lactation; infancy; childhood; adolescence; and older adults (65+). Nutrient and energy needs, assessment of nutritional status, and cultural and socioeconomic barriers are discussed for each phase.

Rules & Requirements
Requisites: Prerequisite, NUTR 240 or Equivalent.
Grading Status: Letter grade.

NUTR 711. Nutrition Across the Lifecycle. 3 Credits.
This course covers global perspectives on nutrition across the life cycle including US and international food-based recommendations for the following life phases: Adults, Pregnancy and Lactation, Infants and Toddlers, Children and Adolescents, and Older Adults. Heavy emphasis is placed on understanding diet-disease relationships across each life phase as well as opportunities and strategies for intervention using life course and ecological perspectives.

Rules & Requirements
Requisites: Prerequisite, NUTR 705 or equivalent.
Grading Status: Letter grade.

NUTR 712. Nutrition Communication, Counseling and Culture. 3 Credits.
This course teaches the future nutrition professional the art and science of communicating with individuals, groups, and the public. Students will enhance cultural awareness, practice counseling individuals and facilitating groups, and frame nutrition messages for mass media including social media.

Rules & Requirements
Requisites: Prerequisite, NUTR 705 or equivalent.
Grading Status: Letter grade.

NUTR 713. Nutrition Communication, Culture and Equity. 3 Credits.
This course teaches the future nutrition professional the art and science of communicating with individuals, groups, and the public. Students will explore the role of nutrition in different cultures and how to frame nutrition messages for mass media including social media. The course will also focus on nutrition justice and nutritional health equity.

Rules & Requirements
Requisites: Prerequisite, NUTR 705 or equivalent.
Grading Status: Letter grade.

NUTR 714. Nutritional Biochemistry, Metabolism and Health. 3 Credits.
Introduction to biochemistry and functions of macro- and micro-nutrients with a limited focus on medical aspects of nutrient deficiencies and metabolism. Focus on chemical structures, chemical properties, metabolism, and functions of macro- and micro-nutrients.

Rules & Requirements
Requisites: Prerequisites, BIOL 252 and 252L, BIOL 422 and 422L, NUTR 240, CHEM 261 and CHEM 430, or permission from the instructor.
Grading Status: Letter grade.

NUTR 715. Medical Nutrition Therapy 2. 4 Credits.
A lecture and skills course where students practice skills used in nutrition therapy and the Nutrition Care Process (such as calculating caloric intake and modifying intake, calculating diabetic diets, calculating sodium content of intakes, etc.) under the supervision of a Registered Dietitian.

Rules & Requirements
Requisites: Prerequisites, NUTR 709, NUTR 711 and NUTR 712.
Grading Status: Letter grade.

NUTR 722. Nutrition Thesis Seminar. 1 Credits.
The changing landscape of nutritional science research has increased the demand of early-career investigators to be more transdisciplinary, perform highly rigorous research, and be prepared for less-traditional research positions. With a framework of performing reproducible research, this course introduces students to the concepts and skills to perform and understand rigorous nutrition research. The course also covers aspects of research ethics, effective use of UNC research resources, work-life balance and research innovation. Restricted to first year MS students and senior BSPH Honors students.

Rules & Requirements
Grading Status: Letter grade.

NUTR 723. Community Nutrition. 3 Credits.
This course provides graduate students with competencies to assess factors that influence the nutritional status of the population; identify community resources to promote and support nutrition and health; conduct community assets and needs assessments; and design, implement, and evaluate public health nutrition programs.

Rules & Requirements
Requisites: Prerequisite, SPHG 701.
Grading Status: Letter grade.

NUTR 745. International Nutrition. 3 Credits.
Provides a broad overview of international nutrition research issues, programs, and policies. Topics will include micronutrient deficiencies, child feeding and growth, determinants of under- and over-nutrition, chronic disease and nutrition, food fortification and supplementation, and nutrition intervention programs and policy.

Rules & Requirements
Grading Status: Letter grade.

NUTR 746. Taxes, Bans & Burgers: Directed Readings in Global Food Policy. 1 Credits.
Course will explore the social, historical, and political context of how individuals make decisions about what to eat; how this context shapes food policy; and how these policies in turn shape individual behavior, by employing a comparative framework over three countries (China, Mexico, and the U.S.).

Rules & Requirements
Grading Status: Letter grade.

NUTR 748. Global Food and Nutrition Security. 3 Credits.
Introduces the basic principles of food and nutrition security from a global lens; addresses nutrition in emergencies and humanitarian contexts; and the role that nutrition security plays in improving the health and well being of populations. Aims to equip students with the knowledge and skills required to conduct population and community-based nutrition research, to assess the food and nutrition security status of vulnerable population groups. Will cover key aspects related to food security interventions, taking into consideration cultural, social, geo-political and environmental dimensions in conflict- affected settings and humanitarian contexts, with a focus on the Middle East and North Africa.

Rules & Requirements
Grading Status: Letter grade.

NUTR 749. mHealth for Behavior Change. 2 Credits.
This special topics seminar examines the impact and potential of mobile health interventions and apps for health behavior change. The overall course objective is to understand state of the science and future potential to leverage mobile phones and wearable technologies in innovative and powerful behavior change interventions to improve health. The course considers adaptation of eHealth interventions for mobile delivery, unique opportunities with mHealth, data collection via mobile devices and sensors, and using the data.

Rules & Requirements
Grading Status: Letter grade.
Same as: HBEH 749.

NUTR 751. Global Healthy And Sustainable Food Systems. 3 Credits.
This course will provide an overview of global food systems drivers, elements, and activities; key players; key problems, and potential solutions. Students will explore these challenges worldwide, gaining insight into the design, implementation, and impact of programs, policies, and interventions aimed at addressing them.

Rules & Requirements
Grading Status: Letter grade.

NUTR 753. Local Food Systems, Health, and the Environment. 2 Credits.
This course addresses how our current food system impacts the health of people, communities, and the environment. Students will hear from experts across these domains and review the current literature about evidence-based approaches to address the major challenges. Students will learn how to assist local food system partners on how to promote a healthier and sustainable food system.

Rules & Requirements
Grading Status: Letter grade.

NUTR 760. Food Science. 2 Credits.
Introduction to foods, chemical and physical properties, nutritional composition, food safety, production, and regulation.

Rules & Requirements
Requisites: Corequisite, NUTR 761L or NUTR 760L.
Grading Status: Letter grade.

NUTR 760L. Food Science Laboratory. 1 Credits.
Basic culinary techniques. Classes illustrate biochemical processes and food properties covered in lecture. Introduction to new foods and food ideas. Critical evaluation of recipes. Laboratory fee required. Three laboratory hours per week.

Rules & Requirements
Requisites: Corequisite, NUTR 760.
Grading Status: Letter grade.

NUTR 761L. Food Science Laboratory. 1 Credits.
Basic culinary techniques. Classes illustrate biochemical processes and food properties covered in lecture. Introduction to new foods and food ideas. Critical evaluation of recipes. Laboratory fee required. Three laboratory hours per week.

Rules & Requirements
Requisites: Corequisite, NUTR 760.
Grading Status: Letter grade.

NUTR 765. Nutritional Epidemiology for Master's Students. 3 Credits.
This course introduces basic methods of dietary assessment, reviews various topics in nutrition epidemiology, and teaches the skills needed for critical evaluation of the nutritional epidemiologic literature.

Rules & Requirements
Requisites: Prerequisite, SPHG 711, SPHG 712, SPHG 713, SPHG 721, SPHG 722 (MPH Core Courses).
Grading Status: Letter grade.

NUTR 770. Clinical Trials in Nutrition. 3 Credits.
This course is designed to introduce students to nutrition interventions and help students develop knowledge and skills necessary to critically analyze, describe, and evaluate behavioral nutrition interventions. The course covers concepts, skills and methods related to nutrition interventions, with an emphasis on theory-based interventions at the individual, community, or environmental levels to improve health and nutrition outcomes.

Rules & Requirements
Grading Status: Letter grade.

NUTR 805. Nutrition Policy. 3 Credits.
This course focuses on food and nutrition policy on federal, state, local, and organizational levels. Topics covered include legislative and regulatory processes, policy evaluation, advocacy, agencies/organizations involved with food and nutrition policy/advocacy, how research informs policy, and ways to engage with food and nutrition policy/advocacy efforts. Key food and nutrition-related legislation and current public health nutrition policy examples from the US and globally will be discussed. Permission of the instructor for undergraduates.

Rules & Requirements
Grading Status: Letter grade.

NUTR 808. Global Cardiometabolic Disease Seminar. 1 Credits.
This core seminar addresses biology, genetics, epidemiology, intervention and policy strategies relevant for addressing global cardiometabolic disease, as well as, professional development and responsible conduct of research in global settings.

Rules & Requirements
Repeat Rules: May be repeated for credit. 4 total credits. 4 total completions.
Grading Status: Letter grade.

NUTR 810. Physical Activity Epidemiology and Public Health. 3 Credits.
This course provides an overview of major issues in physical activity measurements, population distribution, correlates, impacts (physically and economically), and public health recommendations. Interventions, including relevant theories, will be reviewed. Three lecture hours per week.

Rules & Requirements
Requisites: Prerequisite, EPID 600.
Grading Status: Letter grade.
Same as: EPID 810.

NUTR 812. Introduction to Obesity: Cell to Society. 3 Credits.
Provides a broad survey of obesity research including measurement issues, biological, social and economic etiologies, health and economic consequences, and prevention and treatment of obesity.

Rules & Requirements
Grading Status: Letter grade.

NUTR 813. Introduction to Epidemiology for Nutrition Applications. 3 Credits.
This course introduces basic methods of dietary assessment, reviews various topics in nutrition epidemiology, and teaches the skills needed for critical evaluation of the nutritional epidemiologic literature.

Rules & Requirements
Requisites: Prerequisites, BIOS 600, BBSP 710, and EPID 600 or 710.
Grading Status: Letter grade.

NUTR 814. Obesity Epidemiology. 3 Credits.
Examines epidemiology research on the causes, consequences, and prevention of obesity. Emphasis on methodological issues pertinent to obesity research.

Rules & Requirements
Requisites: Prerequisites, BIOS 545, EPID 715, 716 and NUTR 812 or NUTR 813.
Grading Status: Letter grade.
Same as: EPID 814.

NUTR 816. Nutritional Epidemiology. 3 Credits.
This course covers key concepts in nutritional epidemiology, including dietary assessment and analytic approaches. The goal is to teach and reinforce the application of conceptual understanding to the critical evaluation of nutritional epidemiology literature. Comfort with basic epidemiologic and biostatistical concepts and methods is assumed.

Rules & Requirements
Requisites: Prerequisite, EPID 710, EPID 716, BIOS 600, or equivalent.
Grading Status: Letter grade.

NUTR 818. Analytical Methods in Nutritional Epidemiology. 3 Credits.
Skills and techniques to study how dietary exposures, physical activity, and anthropometric status relate to disease outcomes. Focus is hands-on data analysis using STATA, and interpretation of results from statistical analysis.

Rules & Requirements
Requisites: Prerequisites, BIOS 545, EPID 600 or 710, and NUTR 813.
Grading Status: Letter grade.
Same as: EPID 818.

NUTR 845. Nutritional Metabolism. 3 Credits.
A problem-based approach to examine current topics in biochemistry relevant to nutrition and metabolism. Students interpret data and design experiments related to recent advances in nutritional biochemistry.

Rules & Requirements
Requisites: Prerequisite, NUTR 600.
Grading Status: Letter grade.

NUTR 865. Advanced Nutritional Biochemistry: Nutrigenomics and Precision Nutrition. 2 Credits.
Permission of the instructor. Course focuses on nutrigenetics and nutrigenomics with an emphasis on the genetic and dietary interactions predisposing one to increased risk of disease.

Rules & Requirements
Grading Status: Letter grade.
Same as: GNET 865.

NUTR 867. Advanced Nutritional Biochemistry: Vitamins and Disease. 2 Credits.
Focuses on the molecular processes involving B and D-group vitamins, mechanisms of pathologies caused by their deficiency, as well as the latest studies on nutritional requirements, population consumption levels, and use of the vitamins for treatment and prevention of human disease.

Rules & Requirements
Requisites: Prerequisites, NUTR 600 and 620; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

NUTR 868. Advanced Nutritional Biochemistry: Nutrition and Cancer. 2 Credits.
The course will cover the biology of cancer as well as the metabolic and physiological functions of nutritional factors and how they impact the cancer process. The course will focus on aspects of current research that are relevant to links between nutritional factors, with emphasis on mechanism-based cancer prevention approaches.

Rules & Requirements
Requisites: Prerequisite, NUTR 600 or equivalent.
Grading Status: Letter grade.

NUTR 880. Elements of Being a Scientist. 3 Credits.
Permission of the instructor. For doctoral students prepared with Ph.D. aims/focus. Focuses on key elements that contribute to a successful career as a scientific researcher. These include scientific presentations, NIH proposal grant writing, evaluating published manuscripts, sources of funding, peer review, use of animals and humans in research, and scientific ethics.

Rules & Requirements
Grading Status: Letter grade.

NUTR 885. Doctoral Seminar. 2 Credits.
The changing landscape of nutritional science research has increased the demand of early-career investigators to be more transdisciplinary, perform highly rigorous research, and be prepared for less-traditional research positions. With a framework of performing reproducible research, this course introduces students to the concepts and skills to perform and understand rigorous nutrition research. The course also covers aspects of research ethics, effective use of UNC research resources, work-life balance and research innovation.

Rules & Requirements
Repeat Rules: May be repeated for credit. 4 total credits. 2 total completions.
Grading Status: Letter grade.

NUTR 910. Nutrition Research. 1-9 Credits.
Individual arrangements with faculty for doctoral students to participate in ongoing research.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

NUTR 920. Research Rotations for Nutritional Biochemistry Doctoral Students. 1-3 Credits.
Two laboratory or research group rotations supervised by nutritional biochemistry faculty. Provides a breadth of research experience for students prior to selecting dissertation adviser. Up to six laboratory hours per week.

Rules & Requirements
Grading Status: Letter grade.

NUTR 992. Master's (Non-Thesis). 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

NUTR 993. Master's Research and Thesis. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

NUTR 994. Doctoral Research and Dissertation. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

Contact Information

Department of Nutrition
Visit Program Website (http://www.sph.unc.edu/nutr/)

DIVISION OF OCCUPATIONAL SCIENCE AND OCCUPATIONAL THERAPY (GRAD)

The Division of Occupational Science and Occupational Therapy in the Department of Health Sciences offers two graduate programs: a master of science (M.S.) degree with a major in occupational therapy and a doctor of philosophy (Ph.D.) degree in occupational science. The M.S. in occupational therapy program is a two-year program designed for individuals with a baccalaureate degree in a field other than occupational therapy. It is an entry-level program for individuals who wish to become occupational therapists. The Ph.D. program in occupational science accepts applicants with an earned master's degree in occupational therapy or a related field (see admission requirements below). The doctoral program prepares individuals who wish to pursue academic careers that could include teaching, research, and other scholarly activities related to occupational science and occupational therapy.

Requirements for Admission into the M.S. Program in Occupational Therapy

1. Bachelor's degree from an accredited institution
2. Academic record that demonstrates potential to do work at the graduate level
3. Completion of the occupational therapy supplemental application

The M.S. program has eight prerequisite courses, four of which are fixed (core body of knowledge) and four of which fall into categories that are "flexible," meaning that a variety of courses can fulfill the requirement in that category. All prerequisites except the occupation course must be taken for credit in an accredited academic institution of higher learning and must be no more than five years old at the time of application. The occupation prerequisite must be no more than three years old.

Fixed Prerequisites

1. Human anatomy with a laboratory[1]
2. Human physiology[1]
3. Abnormal psychology
4. Introductory statistics

[1] A two-semester sequence of combined anatomy and physiology; parts I and II may be substituted for separate courses.

Flexible Prerequisites

1. Human/individual behavior (for example: developmental psychology; child development; adulthood and aging; cognitive psychology; neuro-psychology)
2. Modes of reasoning (for example: philosophy; ethics; statistics or data analysis [beyond the introductory course]; comparative religion, art, or music; literature taught in a foreign language; research design or methods)
3. Study of social relationships, institutions, and systems (for example: linguistics; cultural/social anthropology; sociology [beyond intro level]; public health; public policy; leisure studies; political science; minority studies)
4. Occupation: Complete a course in either an academic or community-based setting that requires the skills of your body as well as your mind. The occupation prerequisite must have the following characteristics:
   - new learning/challenge (not something you already do or know how to do)
   - formal (structured) learning context, but does not have to be a "for credit" course
   - at least once a week for a minimum of six weeks
   - social context (other learners present in person; online courses are not accepted)
   - results in an end product or performance
   - learners must be active (not just recipients of information)
   - course content is not designed to be used to benefit, teach, or communicate with others

Examples include creative writing, poetry writing, studio art class, woodworking, jewelry making, theater, dance, music, and some sports.

The master of science program requires a minimum of 63 semester credit hours. The program is 24 months in length and includes substantial field work experience.

Occupational therapy courses are available only to graduate students enrolled in the M.S. program at the University.

Requirements for Admission into the Ph.D. Program in Occupational Science

The Ph.D. program in occupational science accepts academically qualified applicants who have completed master degrees in occupational therapy, relevant social and behavioral sciences, or related health fields. Applicants receive a thorough review for evidence of potential success in a doctoral program in The Graduate School at UNC–Chapel Hill. In order to achieve closely mentored research experiences, only applicants with expressed interests consistent with existing programs of research and scholarly work of the faculty are admitted. Final selection among qualified applicants will be based on an interview with core faculty members in the Ph.D. program in occupational science. Review the UNC–Chapel Hill website for information about applying to The Graduate School. In addition to the formal application to The Graduate School, the following information is required:

1. Copies of all undergraduate and graduate transcripts
2. Results of the TOEFL (Test of English as a Foreign Language, if applicable)
3. Academic statement describing applicant's interest in and/or understanding of occupational science
4. Personal statement describing applicant's background, identities, and life experiences
5. Three letters of recommendation from individuals who support the applicant's potential as an educator and scholar

The Ph.D. program requires a minimum of 45 semester credit hours beyond the master's degree. This course of study covers four domains:

1. Occupational science
2. An interdisciplinary cognate area that complements occupational science
3. Research design and methodology
4. Competencies for an academic career

All graduates must complete a doctoral dissertation in occupational science. Students are also expected to reach satisfactory competence in teaching and research as determined by their career goals.

With approval from the instructor, occupational science courses are open to graduate students interested in

1. The study of people engaged in everyday activities in different situations and
2. How various experiences in an activity or patterns of engagement influence development, health, and quality of life across the lifespan

Occupational Therapy, Master's Program (M.S.)

The Master of Science in Occupational Therapy (MSOT) is an entry-level program designed for people with an undergraduate degree in a field other than occupational therapy. It is organized and sequenced for 2 years of full-time, in-person study and requires 60 credit hours of coursework, including research experiences, and 12 credit hours of Level II (full-time) Fieldwork. A Master's Comprehensive Self-Assessment Portfolio (MCSA) serves as a substitute for comprehensive exams and thesis. Graduates of the program are eligible to take the national certification exam, administered by the National Board for Certification in Occupational Therapy ® (NBCOT®), and obtain a license to practice in their state.

Course Requirements

Code	Title	Hours
Core Courses		
OCCT 704	Research in Occupational Science and Therapy	3
OCCT 720A	Fieldwork II	6
OCCT 720B	Fieldwork II	6
OCCT 725	Human Capacities: Body Structures and Functions I	3
OCCT 726	Human Capacities: Body Structures and Functions II	3
OCCT 727	Perspectives on Disability and Health I	2
OCCT 728	Perspectives on Disability and Health II	2
OCCT 729	Perspectives on Disability and Health III: Older Adults	3
OCCT 736	Occupational Therapy Practice Environments	3
OCCT 755	Foundations of Occupational Therapy Practice	4
OCCT 756	Therapeutic Processes I	3
OCCT 757	Therapeutic Processes II	3
OCCT 766L	Therapeutic Processes Lab I	2
OCCT 767L	Therapeutic Processes Lab II	1
OCCT 770	Occupational Science	2
OCCT 771	Life Course I: Early Years	2
OCCT 772	Life Course II: Adulthood	1
OCCT 773	Life course III: Older Adults	3
OCCT 781	Environments and Technologies	2
OCCT 836	Community Level OT Practice	3
OCCT 837	Professional Development and Transition to Practice	2
OCCT 990	Applied Research Seminar I	1
Thesis/Substitute or Dissertation		
OCCT 992	Master's Applied Research Experience	3
Minimum Hours		**63**

Milestones

- Master's Committee
- Master's Written Exam/Approved Exam Substitute
- Thesis Substitute
- Approved Master's Thesis
- Master's Exit Survey

Occupational Science, Doctoral Program (Ph.D.)

The PhD Program of the Division of Occupational Science and Occupational Therapy offers opportunities for graduate students to receive training across a range of the discipline's interests, to include in that training work in cognate disciplines, and to work directly with faculty members on specific research projects. As much as possible, programs are tailored to the needs and interests of the individual student. Graduates of the program will be prepared to assume leadership roles as scholars, researchers, and educators in academic institutions and as clinical researchers in a wide assortment of healthcare and community settings. Furthermore, graduates will become experts in applying research to real-world situations and in contributing to interdisciplinary interventions by addressing the health implications of everyday activities for people, communities and populations.

Course Requirements

Code	Title	Hours
Core Courses		
HSCI 902	Philosophical Foundations: Assumptions Guiding Research Methodologies	1
HSCI 903	Qualitative Foundations: Understanding People and Practices	1
HSCI 904	Quantitative Foundations: Alternative Designs, Types of Knowledge, Generalization	2
OCSC 845	Conceptual Introduction to Occupational Science	3
OCSC 855	Theorizing on Human Doing	3
OCSC 890	Seminar on Special Topics in Occupational Science	6
HSCI 909	Proposal and Grant Writing	3
HSCI 914	Academic and Scientific Writing	1
Statistics I		3
EDUC 710	Introductory Statistical Methods [1]	
Statistics II		3
EDUC 784	Intermediate Statistical Methods [1]	
Electives		
Students must take 12 to 18 credits as electives from the pre-approved list below, or seek Director approval upon request.		12-18
Thesis/Substitute or Dissertation		
OCSC 994	Doctoral Research and Dissertation	6
Minimum Hours		**44**

[1] Students may take other statistics courses with DGS approval.

Code	Title	Hours
Electives		
Research Design & Methodology		6-9
Cognate		6-9

Milestones

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 27) for more information.

- Doctoral Committee
- Doctoral Oral Comprehensive Exam
- Doctoral Written Exam
- Prospectus Oral Exam (written and oral)
- Dissertation Defense
- Doctoral Dissertation Approved/Format Accepted
- Residence Credit
- Doctoral Exit Survey

Professors

Nancy Bagatell, Adolescents and Adults with Autism and Other Developmental Disabilities: Community Participation, Identity Construction

Associate Professors

Vanessa Jewell, Type I Diabetes, Family-Focused Intervention, Rural Services, Occupation-Centered Practice
Katie Sorensen, ADA, Disability Rights and Advocacy, Fieldwork
Linn Wakeford, Occupation-Centered Services for Infants and Preschoolers with Developmental Delay, Diversity and Inclusion

Assistant Professors

Khalilah Johnson, Individuals with Intellectual Disabilities, Racial and Ethnic Disparities
Ryan Lavalley, Community Practice, Older Adults
Bridgette LeCompte, School-Based Practice
Micheal Sandbank, Early Intervention, Autism, Meta-Analysis
Lauren Selingo, Substance Use, Women, Older Adults

Professors Emeritae

Ruth Humphry
Cathy Nielson

Associate Professors Emeritae

Virginia Dickie
Jane Rourk

OCCT (Occupational Therapy)

Graduate-level Courses

OCCT 704. Research in Occupational Science and Therapy. 3 Credits.
Examination of research approaches and issues within occupational science and occupational therapy. Development of skills in writing research proposals and applying research results to insure evidence-based practice.

Rules & Requirements
Grading Status: Letter grade.

OCCT 720A. Fieldwork II. 6 Credits.
Direct experience with clients/patients in varied service treatment settings. Experience will include adult disabilities.

Rules & Requirements
Grading Status: Letter grade.

OCCT 720B. Fieldwork II. 6 Credits.
Direct experience with clients/patients in varied service treatment settings. Experience will include adult disabilities.

Rules & Requirements
Grading Status: Letter grade.

OCCT 725. Human Capacities: Body Structures and Functions I. 3 Credits.
An introduction to the structures, functions, and processes of the human body that support participation. Mental and sensory processing, digestion, reproduction, endocrine, and immune responses that support occupation are explored.

Rules & Requirements
Grading Status: Letter grade.

OCCT 726. Human Capacities: Body Structures and Functions II. 3 Credits.
An introduction to the structures, functions, and processes of the human body that support participation. The focus is on motor and somatosensory capacities and the structures related to those functions.

Rules & Requirements
Grading Status: Letter grade.

OCCT 727. Perspectives on Disability and Health I. 2 Credits.
An exploration of the biological and phenomenological aspects of specific mental and physical health conditions that may be experienced by children, adolescents, and young adults.

Rules & Requirements
Grading Status: Letter grade.

OCCT 728. Perspectives on Disability and Health II. 2 Credits.
This course addresses the biological and phenomenological aspects of specific mental and physical health conditions that may be experienced by adults.

Rules & Requirements
Requisites: Prerequisite, OCCT 727.
Grading Status: Letter grade.

OCCT 729. Perspectives on Disability and Health III: Older Adults. 3 Credits.
Complex health conditions and changes affecting older adults' capacity to engage in meaningful occupations. Biomedical and narrative perspectives.

Rules & Requirements
Requisites: Prerequisites, OCCT 727 and 728.
Grading Status: Letter grade.

OCCT 736. Occupational Therapy Practice Environments. 3 Credits.
Overview of OT practice settings, professional organizations, and regulatory bodies. Factors influencing practice, including legislation, reimbursement, documentation, and culture of communities. Ethics, confidentiality, self-awareness, teamwork, and professionalism in practical settings.

Rules & Requirements
Grading Status: Letter grade.

OCCT 755. Foundations of Occupational Therapy Practice. 4 Credits.
Introduction of core foundations for occupation-centered occupational therapy practice. Students learn fundamentals of professional communication and behavior, therapeutic use of self, clinical reasoning, activity analysis, theory, and evidence-based practice.

Rules & Requirements
Grading Status: Letter grade.

OCCT 756. Therapeutic Processes I. 3 Credits.
Occupational therapy majors only. This course focuses on occupational therapy practice with children, adolescents, and young adults who have disabilities or health problems that inhibit occupational performance and/or social participation, across a variety of situations.

Rules & Requirements
Requisites: Prerequisites, OCCT 755 and 765L.
Grading Status: Letter grade.

OCCT 757. Therapeutic Processes II. 3 Credits.
A focus on occupational therapy practice with adults that have physical and/or mental health conditions that impact their participation in occupations.

Rules & Requirements
Requisites: Prerequisite, OCCT 727.
Grading Status: Letter grade.

OCCT 766L. Therapeutic Processes Lab I. 2 Credits.
Occupational therapy majors only. Provides opportunities for students to practice and begin developing key clinical skills in assessment, intervention planning, intervention strategies, and documentation in practice with children, adolescents, and young adults.

Rules & Requirements
Requisites: Prerequisites, OCCT 755 and 765L.
Grading Status: Letter grade.

OCCT 767L. Therapeutic Processes Lab II. 1 Credits.
This applied lab addresses the content and technical skills of practice with adults who encounter occupational therapy due to various life and health conditions.

Rules & Requirements
Requisites: Prerequisite, OCCT 766L.
Grading Status: Letter grade.

OCCT 770. Occupational Science. 2 Credits.
Introduction to the philosophical tenets of occupational science and their application to occupational therapy. The course highlights the multiplicity of interconnected factors which generate participation in occupational situations.

Rules & Requirements
Grading Status: Letter grade.

OCCT 771. Life Course I: Early Years. 2 Credits.
Changing capacities for engagement with occupations and occupational opportunities during childhood, adolescents, and early adulthood.

Rules & Requirements
Grading Status: Letter grade.

OCCT 772. Life Course II: Adulthood. 1 Credits.
Examination of the patterns of participation through occupational engagement with families, communities, workplace, and other social structures in the middle years of the life course.

Rules & Requirements
Requisites: Prerequisite, OCCT 771.
Grading Status: Letter grade.

OCCT 773. Life course III: Older Adults. 3 Credits.
Changing capacities for engagement with occupations and occupational opportunities during older adulthood. Strategies for compensation and adaptation.

Rules & Requirements
Requisites: Prerequisites, OCCT 771 and 772.
Grading Status: Letter grade.

OCCT 781. Environments and Technologies. 2 Credits.
Occupational therapy majors only. Exploration of environmental dimensions of performance. Learn to use assistive and rehabilitation technologies in practice. Students assess situational impact on performance, modify the environment for therapeutic effect, and utilize technology.

Rules & Requirements
Grading Status: Letter grade.

OCCT 836. Community Level OT Practice. 3 Credits.
This course develops the students' understanding of social systems, how they function, and are perpetuated through everyday practices. Students partner with community entities to identify strengths, resources, and service gaps and develop a response.

Rules & Requirements
Requisites: Prerequisites, OCCT 727, 728, 757.
Grading Status: Letter grade.

OCCT 837. Professional Development and Transition to Practice. 2 Credits.
Professional understanding and skills to assess practice context, plan programs, and management of profession interpersonal relationship for collaboration and service delivery.

Rules & Requirements
Requisites: Prerequisite, OCCT 736.
Grading Status: Letter grade.

OCCT 896. Independent Study: Occupational Therapy and Science. 1-15 Credits.
Elective. Independent study to pursue specific interests and topics. Faculty supervision. May be repeated for credit.

Rules & Requirements
Grading Status: Letter grade.

OCCT 990. Applied Research Seminar I. 1 Credits.
Applied Research Seminar with particular focus on the application of the scientific process to address an identified clinical problem.

Rules & Requirements
Requisites: Prerequisite, OCCT 704.
Grading Status: Letter grade.

OCCT 992. Master's Applied Research Experience. 3 Credits.
Collaborative research projects in occupational science or occupational therapy. Emphasis on data collection, analysis, and professional communications of research findings.

OCCT 993. Master's Research and Thesis. 3 Credits.
Permission of the department.

Rules & Requirements
Repeat Rules: May be repeated for credit.

OCSC (Occupational Science)

Graduate-level Courses

OCSC 845. Conceptual Introduction to Occupational Science. 3 Credits.
Deconstruction of the original precepts of occupational science while examining several works from other disciplines. Study of early and recent trends and critiques of occupational science to develop an assessment of the state of the discipline and future directions.

Rules & Requirements
Grading Status: Letter grade.

OCSC 855. Theorizing on Human Doing. 3 Credits.
A reading and discussion of major theories of action from various disciplines. Works read will also entail associated issues such as identity, place, culture, and social relations.

Rules & Requirements
Grading Status: Letter grade.

OCSC 890. Seminar on Special Topics in Occupational Science. 3 Credits.
Discussion and critical evaluation of philosophy, theory, and scientific issues associated with the study of people's activities in the context of their everyday lives. Topics differ each semester.

Rules & Requirements
Grading Status: Letter grade.

OCSC 896. Independent Study in Occupational Science. 3 Credits.
Independent study to pursue specific interests and topics under faculty supervision.

Rules & Requirements
Grading Status: Letter grade.

OCSC 994. Doctoral Research and Dissertation. 3 Credits.
Doctoral dissertation in occupational science.

Contact Information

Division of Occupational Science and Occupational Therapy
Visit Program Website (http://www.med.unc.edu/ahs/ocsci/)

Director
Nancy Bagatell
Nancy_Bagatell@med.unc.edu

DEPARTMENT OF PATHOLOGY AND LABORATORY MEDICINE (GRAD)

Graduate work in the Department of Pathology and Laboratory Medicine is offered through the Pathobiology and Translational Science graduate program to those interested in acquiring more extensive knowledge of disease pathogenesis. Major emphasis is given to the laboratory investigation of molecular and cellular mechanisms responsible for disease initiation, progression, and treatment. Students are given the opportunity to undertake candidacy for the doctor of philosophy degree. Participation in research activities leading to an original dissertation is required of all advanced degree candidates.

Prospective candidates must hold a bachelor's degree from an accredited college or university. Admission to the program is through the Biologic and Biomedical Sciences program (http://bbsp.unc.edu/).

The department is located across multiple buildings on the UNC campus and offers well-equipped, internationally recognized laboratories for research and advanced work in investigating the mechanisms of diseases.

Please visit the graduate program's website (https://www.med.unc.edu/pathology/) for more graduate program information.

Pathobiology and Translational Science, Ph.D.

The Ph.D. program in Pathobiology and Translational Science offers a structured yet flexible path for students to develop advanced research skills. Key requirements include coursework, passing written and oral exams, developing a research proposal, completing original dissertation research, and successfully defending the dissertation.

In the first year, students participate in the Biologic and Biomedical Sciences Program (BBSP), completing foundational coursework and laboratory rotations. The second year and beyond are spent in the Pathobiology and Translational Science Program, focusing on advanced coursework, seminars, and research project development. While most students complete their research within two years, some may require additional time.

The program allows students to tailor elective courses to their specific scientific and career goals. Research skills development is emphasized through critical experimental design, literature analysis, and regular presentations of research progress in group settings. The completion and defense of an original research project is the program's central requirement, ensuring students demonstrate mastery of their field and preparedness for a career in experimental pathology.

Course Requirements

Code	Title	Hours
Core Courses		
PATH 713	Molecular and Cellular Pathophysiological Basis of Disease: Mechanisms of Disease	3
PATH 714L	Molecular and Cellular Pathophysiological Basis of Disease: Laboratory I	2
PATH 801	Cell Cycle Regulation and Cancer	3
PATH 850	Scientific Writing in Pathobiology and Translational Science	1
BBSP 705	Best Practices for Rigor and Reproducibility in Research	1
CBPH 895	Responsible Conduct of Research (RCR)	1
Electives		
Elective course work can be Pathobiology and Translational Science courses, or any biomedical graduate course. Students may choose from the list below.		6
Thesis/Substitute or Dissertation		
PATH 994	Doctoral Research and Dissertation [1]	3
Minimum Hours		**41**

[1] Students must take PATH 994 twice for a minimum of 6 credit hours.

Code	Title	Hours
Electives		
PATH 723	Practical Considerations for Translational Research	
PATH 725	Cancer Pathobiology	
PATH 766	Current Topics in Cardiovascular Biology	
PATH 767	Molecular and Cellular Biology of Cardiovascular Diseases	
PATH 770	Mouse Efficacy and Disease Models	
BIOC 701	Critical Analysis in Biochemistry	
BIOC 702	Advanced Topics in Chromatin and Epigenetics	
BIOC 705	Advanced Biophysics Laboratory	
BIOC 706	Biochemistry of Human Disease	
BIOC 707	Cellular Metabolism and Human Disease	
BCB 712	Databases, Metadata, Ontologies, and Digital Libraries for Biological Sciences	

BCB 715	Mathematical and Computational Approaches to Modeling Signaling and Regulatory Pathways
BCB 716	Sequence Analysis
BCB 717	Structural Bioinformatics
BCB 718	Computational Modeling Laboratory
BCB 720	Introduction to Statistical Modeling
BCB 722	Population Genetics
BCB 723	Topics in Statistical Genetics and Genomics
BCB 724	Data Communication
BCB 725	Introduction to Statistical Genetics
BCB 730	Fundamentals of Quantitative Image Analysis for Light Microscopy
BCB 731	Critical Readings in Biomedical Statistics and Machine Learning
BCB 784	Introduction to Computational Biology
BCB 785	Statistical Methods for Gene Expression Analysis
BIOL 758	Molecular Population Biology
CBPH 710	Advanced Light Microscopy
CBPH 850	Human Physiology I
CBPH 851	Human Physiology II
CBPH 853	Experimental Physiology of Human Health and Disease
CHEM 730	Chemical Biology
CHEM 732	Advances in Macromolecular Structure and Function
GNET 722	Population Genetics
GNET 730	Fundamentals of Quantitative Image Analysis for Light Microscopy
GNET 742	Introduction to UNIX and Perl Programming for biomedical data analysis
GNET 743	Introductory Statistical Analysis in R for Biomedical Scientists
GNET 744	Biological Sequence Analysis, Protein-Structure, and Genome-Wide Data
GNET 747	Development of New Applications for Next Generation Sequencing
GNET 749	Practical RNA-Seq
GNET 865	Advanced Nutritional Biochemistry: Nutrigenomics and Precision Nutrition
NBIO 722	Cellular and Molecular Neurobiology
NBIO 722A	Cellular and Molecular Neurobiology: Introduction and Electrical Signaling
NBIO 722B	Cellular and Molecular Neurobiology: Postsynaptic Mechanisms-Receptors
NBIO 723	Cellular and Molecular Neurobiology
NBIO 724	Developmental Neurobiology
CBMC 805	Molecular Modeling
CBMC 807	Foundations of Chemical Biology I: Organic and Medicinal Chemistry
PHCO 701	Introduction to Molecular Pharmacology
PHCO 702	Principles of Pharmacology and Physiology
PHCO 705	Behavioral Pharmacology
PHCO 722A	Cellular and Molecular Neurobiology: Introduction and Electrical Signaling
PHCO 722B	Cellular and Molecular Neurobiology: Postsynaptic Mechanisms-Receptors
PHCO 726	Adhesion Receptors and Signaling in Cancer and CV Disease
PHCO 728	Neuropharmacology of Alcohol and Substance Use
PHCO 734	Pain and Analgesia
PHCO 735	Discovery Biology and Pharmacogenomics

PHCO 737	Target-Based Drug Discovery and Cancer Treatment
PHCO 739	Reprogramming of Somatic and Stem Cells and Its Applications in Pharmacology
PHCO 740	Contemporary Topics in Cell Signaling: Phosphorylation Control
PHCO 741	Contemporary Topics in Cell Signaling: GTPases
PHCO 742	Contemporary Topics in Cell Signaling: Cell Cycle Control
PHCO 743	Contemporary Topics in Cell Signaling: Signaling Networks
PHCO 744	Topics on Stem Cells and Development
PHCO 745	Intercellular Signaling in Development and Disease
PHCO 749	Practical RNA-Seq
PHCO 750	Proteomics Methods and Applications
TOXC 707	Advanced Toxicology
TOXC 749	Biochemical Toxicology
TOXC 760	Toxicokinetics

Milestones

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 27) for more information.

- Doctoral Committee
- Doctoral Oral Comprehensive Exam (part of DOE)
- Prospectus Oral Exam (part of DOE)
- Doctoral Written Exam
- Dissertation Defense
- Doctoral Dissertation Approved/Format Accepted
- Residence Credit
- Doctoral Exit Survey
- Doctoral Manuscript Submission

Clinical Professors

Frederic Askin, Surgical Pathology, Pulmonary Pathology
Michelle Aurelius, Forensic Pathology
Peter Banks
Russell R. Broaddus, Molecular Pathogenesis of Endometrial Cancer
Leslie G. Dodd, Surgical Pathology, Cytopathology
Ronald J. Falk, Glomerular Disease, Lupus, Vasculitis, Dialysis
George Fedoriw, Hematopathology; Applications of Flow Cytometry
Paul Googe, Dermatopathology
J. Charles Jennette, Renal Pathology, Immunopathology
Susan J. Maygarden, General Surgical Pathology, Cytopathology, Prostate Carcinogenesis
Melissa B. Miller, Molecular Diagnostics, Antimicrobial Resistance, Molecular Epidemiology of MRSA
Volker Nickeleit, Renal Pathology, Fibronectins
Yara Park, Transfusion Medicine
Charles M. Perou, Breast Cancer, Genomics, Microarrays, Tumor Classification, Drug Resistance
John L. Schmitz, Flow Cytometry, HIV, Diagnostic Immunology, Sexually Transmitted Diseases
Jan Silverman, Cytopathology, Gastrointestinal Pathology, Genitourinary Pathology
Harsharan K. Singh, Cytopathology, Fine Needle Aspiration Biopsy, Renal Pathology
James A. Swenberg, Chemical Carcinogenesis, Toxicology, Mass Spectroscopy, DNA Damage and Repair, Endogenous DNA Damage
Leigh B. Thorne, Molecular Pathology, Autopsy Pathology
Karen E. Weck, Molecular Genetic Pathology
Wendell Yarbrough, Otolaryngology/Head and Neck Surgery

Clinical Associate Professors

Kevin Alby,Clinical Microbiology
Jessica K. Booker,Genetics, Breast Cancer
Christine Bookhout, Surgical Pathology
Benjamin Calhoun, Breast Pathology
Steven Cotten, Clinical Chemistry
GeorgetteA.Dent, Hematopathology, Medical Education
Nabila Haikal,Forensic Pathology
Laleh Hakima
Jonathon W. Homeister,Leukocyte Trafficking, Inflammatory Vascular Disease, Thrombosis and Hemostasis, Cardiovascular Pathology, Autopsy Pathology
Alina Iuga,Histopathology; Inflammation and Neoplastic Disorders of the Digestive System
Matthew Karafin,Transfusion Medicine
Nicole L. Korpi-Steiner, Clinical Chemistry
Danielle Maracaja
Stephanie P. Mathews,Hematopathology
Jason Merker, Molecular Pathology
Jayson Miedema,Dermatopathology
Siobhan M. O'Connor,Breast Pathology, GYN Pathology, Cytopathology
LoriR.Scanga,#Surgical Pathology, Cytopathology
Eric T. Weimer,Histocompatibility, Flow Cytometry and Clinical Microbiology/Immunology
Herbert C. Whinna,Mechanisms of Hemostasis and Thrombosis, Biochemistry and Vascular Biology of Blood Coagulation, Protein Structure-Function
Sara E. Wobker,Genitourinary Pathology
Lee-Ching Zhu

Clinical Assistant Professors

Thomas Alexander
Janet Baranello
Sue Ann Berend, Cytogenetics
Sandra Bishop-Freeman, Forensic Toxicology
Amy Brownlee
Benjamin Cho
Mariama Evans
Jonathan Galeotti, Hematopathology
Johann D. Hertel, Cytopathology
Kimberly Janssen, Forensic Pathology

Steven Johnson
Dona Kanavy
Staci Keene
Vanessa Moreno
Craig Nelson, Forensic Pathology, Water-Related Deaths, Including Drowning of All Kinds and Particularly Scuba, Rebreather, and Freediving Deaths
Lori Ramkissoon, Clinical Cytogenetics, Molecular Genetics
T. Danielle Samulski, Gynecologic Pathology, ENT Pathology, and Cytopathology
Lauren Scott, Forensic Pathology, Preventive Health, Especially Suicide and Accident Prevention, the Value of Autopsy in Medical Education
Bart Singer, Surgical Pathology
Tam Sneddon
Susan Venuti, Forensic Pathology
Alisha Ware
Sam Wu, Dermatopathology

Clinical Instructors

Michelle Bartlett, Pathologists' Assistant
Kimberly Calabrese, Pathologists' Assistant
Shelby Currier, Pathologists' Assistant
Nicola Gerken, Pathologists' Assistant
Steve Holmes, Examination of Simple and Complex Specimens, Surgical Pathology
Andre Phelan, Pathologists' Assistant: Surgical Pathology Training for Residents and Students

Research Professors

Claire Doerschuk, Diseases Affecting the Airways of the Lung
Craig A. Fletcher, Vascular Biology
Matthew Flick,Elucidating Mechanisms Linking Coagulation and Fibrinolytic Factors to Inflammatory, Infectious, and Malignant Disease
Virginia L. Godfrey, Veterinary Pathology, Animal Models of Genetic Disease, Autoimmunity
Ajay Gulati, Pediatric Gastroenterology
Tracy M. Heenan, Laboratory-, Exotic- and Companion-Animal Medicine
Mehmet Kesimer, Mucin Glycobiology and Airway Epithelial Pathobiology
Nigel Key, Thrombosis and Hemostasis
Christopher P. Mack, Transcriptional Regulation in the Cardiovascular System, Smooth Muscle Cell Biology
Nigel Mackman, Thrombosis and Hemostasis
Nobuyo Maeda, Molecular Genetics of Atherosclerosis, Transgenic Laboratory Animals as Model Systems, Molecular Evolution
Valerie Murrah, Oral, Head, and Neck Pathology
Timothy C. Nichols, General Cardiology, Cardiac Catheterization, Percutaneous Transluminal Coronary Angioplasty
Volker Nickeleit, Renal Pathology, Fibronectins
Li Qian, Cardiovascular and Stem Cell Biology
Rani Sellers
Jonathan Serody
Harsharan K. Singh,#Cytopathology, Fine Needle Aspiration Biopsy, Renal Pathology Adhesion Signaling, Cardiovascular Disease
Melissa Troester, Molecular Studies with Human Populations
Cyrus Vaziri, Regulation of DNA Replication, S-Phase Checkpoints, and Post-Replication DNA Repair on Mammalian Cells
Gregory Wilkerson
Alisa S. Wolberg, Cellular and Molecular Mechanisms in Hemostasis and Thrombosis
Maimoona A. Zariwala, Genetic Analysis of Patients With Primary Ciliary Dyskinesia (PCD)

Research Associate Professors

Silvio Antoniak, Protease-Activated Receptors in Cardiovascular Diseases, Myocarditis, and Heart Failure Animal Models
Pablo Ariel, Director of the Microscopy Services Laboratory
Andrew Gladden, Epithelial Cell Biology; Reproductive Tract Development and Neoplasia
Peiqi Hu, Immune-Mediated Kidney Disease
Feng Li, Cardiovascular Biology
Jiandong Liu, Cardiovascular Biology
Steven Shipley, Comparative Medicine, Infectious Disease
Young E. Whang, Androgen Receptor, Prostate Cancer
Scott Williams, Stem Cell and Developmental Biology
Melinda Yates

Research Assistant Professor

Hannah Atkins, Comparative Medicine
Jessica Bowser, Dynamics of Epithelial Integrity and Regeneration at the Interface of Inflammation and Cancer, Molecular and Biochemical Mechanisms of Endometrial Cancer Progression
Ilana Galex
Nneka George
Meghan Free, Nephrology and Hypertension
Natalia Isaeva, Otolaryngology
Yukako Kayashima, Atherosclerosis
Boa Kim
Sushant Patil, Bioinformatics
Reinhardt-Boris Reidel, Airway Protein Function in Health and Disease
Allison Rogala, Comparative Medicine, Host-Microbial Interactions
Blake Rushing
Jonathan Schisler, Translational Research in Patients with Myocardial Infarcts
Travis Schrank
Erica Sparkenbaugh
W.H. Davin Townley-Tilson
Haofei Wang
Morika Williams, Comparative Medicine

Research Instructor

Diane Armao, Neuropathology

Adjunct Professors

Albert Baldwin, Biology
Bryan Dangott
Peter H. Gilligan, Diagnostic Bacteriology, Pulmonary Disease in Cystic Fibrosis, Toxin Mediated Diarrheal Disease
M. David Goodman, Medical Education and Autopsy Pathology
H. Michael Jones, Medical Education at Medical Student and Resident Level, Medical History, Autopsy Pathology, Research Support
William Kaufmann
Myla Lai-Goldman, Personalized Molecular Diagnostics
Chad A. Livasy, Surgical Pathology
Roger Lundblad, Consultant
C. Ryan Miller
Judith N. Nielsen, Animal Health Maintenance, Diagnosis and Eradication
Howard M. Reisner, Immunogenetics of Blood Coagulation, Immunochemistry

Gary J. Smith, Prostate Cancer, Cancer Cell-Tissue Microenvironmental Interaction, Angiogenesis
Richard Tidwell

Adjunct Associate Professors

Delores Grant, Cancer Research
David G. Kaufman
Thomas Lightfoot, American Red Cross Blood Services
Christopher McKinney, General Pathology
Stephanie Montgomery
Jay S. Raval, Transfusion Medicine
Nobuyuki Takahashi, Animal Models of Hypertension, Preeclampsia, Diabetic Nephropathy and Obesity

Adjunct Assistant Professors

Edward Bahnson, Vascular Biology, Diabetes and Metabolic Syndrome
Victoria Baxter
Nikia Laurie
Brian Le
Nathan Montgomery
Avani Pendse, Surgical Pathology
Ricky Thompson
Tamiwe Tomoka, General Pathology
Patrick Wilson

Professors Emeriti

Nadia Malouf Anderson
C. Robert Bagnell Jr.
Dwight Bellinger
Stuart Bentley
Debra A. Budwit
John D. Butts
John F. Chapman Jr.
Myra L. Collins
Marila Cordeiro-Stone
Robert E. Cross
Frederic G. Dalldorf
Cora-Jean S. Edgell
James D. Folds
Donald T. Forman
Joe W. Grisham
Catherine A. Hammett-Stabler
John E. Hammond
Susan T. Lord
William W. McLendon
James R. Pick
Marjorie S. Read
Harold Roberts
Kinuko I. Suzuki
Michael Topal

PATH

Graduate-level Courses

PATH 710. Advanced Light Microscopy. 3 Credits.
An intensive and comprehensive hands-on laboratory-oriented course in light microscopy for researchers in biology, medicine, and materials science. This course will focus on advanced quantitative fluorescence microscopy techniques used for imaging a range of biological specimens, from whole organisms, to tissues, to cells, and to single molecules. This course emphasizes the quantitative issues that are critical to the proper interpretation of images obtained with light microscopes.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 1 total completions.
Grading Status: Letter grade.
Same as: CBPH 710, NBIO 710.

PATH 713. Molecular and Cellular Pathophysiological Basis of Disease: Mechanisms of Disease. 3 Credits.
A graduate course on cell injury and pathogenesis of disease with emphasis on basic mechanisms at the molecular, cellular, and organismal levels. Three lecture hours with a complementary two-and-a-half-hour laboratory each week.

Rules & Requirements
Requisites: Co-requisite, PATH 714L.
Grading Status: Letter grade.

PATH 714L. Molecular and Cellular Pathophysiological Basis of Disease: Laboratory I. 2 Credits.
A graduate-level laboratory course on basic mechanisms of disease pathogenesis, emphasizing cell and tissue-based examples of major disease mechanisms.

Rules & Requirements
Requisites: Pre- or corequisite, PATH 713.
Grading Status: Letter grade.

PATH 723. Practical Considerations for Translational Research. 2 Credits.
Permission of the instructor. A multi-disciplinary course providing students principles involved in translating basic science into clinically applicable diagnostics and therapies to improve human disease outcomes. The course is focused on bioinformatics, bioethics, trial design, FDA approval, and commercialization of laboratory diagnostics.

Rules & Requirements
Grading Status: Letter grade.

PATH 725. Cancer Pathobiology. 3 Credits.
Permission of the instructor. This course examines pathobiological features of cancer. An interdisciplinary approach draws from epidemiology, genetics, molecular biology, and clinical medicine to investigate cancer etiology, pathogenesis, prevention, and treatment.

Rules & Requirements
Grading Status: Letter grade.

PATH 726. Human Environmental Disease. 1-3 Credits.
This course will study human disease processes that are induced or exacerbated by our environment. Environmental disease stressors include solar radiation, air and water pollution, bioreactive substances in foods, pesticides, metals, dusts, particles, and allergens. Lectures will emphasize epidemiology, mechanisms of toxicity, and human disease pathogenesis.

Rules & Requirements
Grading Status: Letter grade.

PATH 730. Cancer Immunology. 2 Credits.
The goal of this graduate-level course is to learn about recent advances in the field, acquire specialized knowledge and to develop a foundation of critical thinking skills in cancer immunology. The course format will combine lectures and in-class discussion of assigned readings, with particular emphasis on state-of-the art research methods. Students should be familiar with modern concepts of immunology and should consult with the course director before enrolling. The course meets for half a semester.

Rules & Requirements
Grading Status: Letter grade.
Same as: MCRO 730.

PATH 766. Current Topics in Cardiovascular Biology. 3 Credits.
Permission of the instructor. Second-year graduate students only. This manuscript-based course will emphasize recent advances in heart and blood vessel development, the molecular mechanisms that regulate cardiovascular cell function, and current methodologies in the cardiovascular field. It will be team taught by members of UNC's McAllister Heart Institute.

Rules & Requirements
Grading Status: Letter grade.

PATH 767. Molecular and Cellular Biology of Cardiovascular Diseases. 3 Credits.
Second year graduate students or permission of the instructor. Course reviews the molecular, cellular, and organismal pathogenesis of cardiovascular disease. It is team-taught by faculty with topic expertise and stresses primary literature and current methodologies. May be taken as a companion to PATH 766 or on its own.

Rules & Requirements
Grading Status: Letter grade.

PATH 770. Mouse Efficacy and Disease Models. 3 Credits.
The Mouse Efficacy and Disease Models class is designed for second to third year students who intend on performing in vivo animal research. This course is intended to familiarize graduate students in the issues associated with the development and interpretation of mouse models and also an introduction to alternative models.

Rules & Requirements
Requisites: Prerequisites, Students must be earning a degree in a Biological & Biomedical Sciences Program (BBSP) with preference given to students in the Pathobiology and Translational Science Graduate Program; students should also have selected a thesis lab prior to enrolling in this class.
Grading Status: Letter grade.

PATH 792. Seminar in Carcinogenesis. 2 Credits.
Permission of the instructor. Survey of classical and current literature on selected critical issues in carcinogenesis. Students discuss experimental methods and observations as well as theories and generalizations. Two seminar hours a week.

Rules & Requirements
Grading Status: Letter grade.
Same as: TOXC 792.

PATH 801. Critical Thinking in Science: From Hypothesis to Grant Proposal. 3 Credits.
This journal club-style discussion course explores the molecular mechanisms regulating normal cell cycle progression and how their deregulation leads to cancer. We will trace the historical development of the cell cycle field, illustrating how scientific inquiry has shaped current paradigms. This course is ideal for students interested in cell proliferation and cancer biology, regardless of prior knowledge.

Rules & Requirements
Grading Status: Letter grade.
Same as: GNET 801.

PATH 850. Scientific Writing in Pathobiology and Translational Science. 2 Credits.
The students will develop a research plan based on their thesis project and write a 6-page grant in the style of a NRSA F31 application. Students will learn to edit and critique their fellow student's proposals which will help prepare the students for writing and editing their preliminary exam and future grant applications. Restricted to students currently earning a degree in a Biological & Biomedical Sciences Program (BBSP) with preference given to students in the Pathobiology and Translational Science Graduate Program.

Rules & Requirements
Grading Status: Letter grade.

PATH 890. Special Topics in Pathology. 1-3 Credits.
A study in special fields under the direction of the faculty. Offered as needed for presenting material not normally available.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 3 total completions.
Grading Status: Letter grade.

PATH 900. Research in Pathology. 2-12 Credits.
Permission of the department. This is a research course in which advanced students in pathology carry on investigations on mechanisms of disease. Six or more laboratory hours a week, to be arranged. May be repeated.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PATH 920. Seminar in Interdisciplinary Vascular Biology. 1 Credits.
Permission of the instructor. Participants in the Interdisciplinary Vascular Biology Training Program only. Students will be required to present their thesis work as a formal seminar, give an introductory lecture to introduce their project (in cooperation with their thesis advisor), and to attend and discuss the seminars of other students.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 6 total completions.
Grading Status: Letter grade.

PATH 940. Pathobiology and Translational Science Seminar. 1 Credits.
A series of scientific seminars by graduate students, Post-doctoral Fellows, research faculty, and others in the Department of Pathology and Laboratory Medicine. Students will develop the skills necessary to deliver an effective and engaging oral scientific presentation of their research. They will become proficient in understanding the pathogenesis of the wide range of diseases being studied in the department, and the methodologies employed to determine the pathogenesis of those diseases.

Rules & Requirements
Repeat Rules: May be repeated for credit. 7 total credits. 7 total completions.
Grading Status: Letter grade.

PATH 993. Master's Research and Thesis. 3 Credits.
May be repeated.

Rules & Requirements
Repeat Rules: May be repeated for credit.

PATH 994. Doctoral Research and Dissertation. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

Contact Information

Department of Pathology and Laboratory Medicine
Visit Program Website (http://www.med.unc.edu/pathology/)

Director of Graduate Studies
Andrew B. Gladden
agladden@email.unc.edu

Student Services Manager
Angel Truesdale
angel_truesdale@med.unc.edu

Chair
Russell Broaddus
rbroaddus@med.unc.edu

DEPARTMENT OF PHARMACOLOGY (GRAD)

The Department of Pharmacology offers a program of study that leads to the degree of doctor of philosophy in pharmacology. The curriculum is individualized in recognition of the diverse backgrounds and interests of students and the broad scope of the discipline of pharmacology.

The department offers a variety of research areas including

1. Receptors and signal transduction
2. Ion channels
3. Neuropharmacology
4. Cancer pharmacology
5. Gene therapy
6. Pharmacology of alcohol and drugs of abuse

The student is expected to begin independent research early in his or her training and to participate in an intensive program of research seminars. Close personal contact between preceptor and trainee is encouraged.

Research Facilities

Laboratory facilities and a variety of research equipment are available in the department, which is located primarily in the Genetic Medicine Building, where it occupies approximately 30,000 square feet (exclusive of classrooms and animal facilities). In addition, several faculty members are located in the Lineberger Comprehensive Cancer Center, the Thurston Bowles Alcohol Center, and the Neurosciences Building.

Assistantships and Other Student Aid

All graduate students in pharmacology are provided a competitive stipend. UNC–Chapel Hill tuition and fees and health insurance are also covered.

Requirements for Admission

All students in the basic science departments in the Medical School and the biological sciences divisions in biology and chemistry enter graduate school through the Biological and Biomedical Sciences Program (http://bbsp.unc.edu/). During the first year students take courses and complete three rotations in laboratories from any of the participating departments or curricula.

After identifying a research mentor, if that faculty member is affiliated with the Pharmacology Department (http://www.med.unc.edu/pharm/people/primaryfaculty/), students can choose to join the pharmacology graduate program. Once in the program, students complete required coursework and qualifying examinations, propose a research topic, choose a dissertation committee, and engage in dissertation research. The anticipated duration of training is five years.

The pharmacology graduate program is dedicated to the training of outstanding scientists in the pharmacological sciences. An outstanding graduate program is a high priority of the department, and the training faculty participate fully at all levels. The department has the highest level of NIH funding of all pharmacology departments and a great diversity of research areas is available to trainees. These areas include cell surface receptors, G proteins, protein kinases, and signal transduction mechanisms; neuropharmacology; nucleic acids, cancer, and antimicrobial pharmacology; and experimental therapeutics. Cell and molecular approaches are particularly strong, but systems-level research such as behavioral pharmacology and analysis of knock-in and knock-out mice is also well-represented. Excellent physical facilities are available for all research areas.

Students completing the training program will have acquired basic knowledge of pharmacology and related fields, in-depth knowledge in their dissertation research area, the ability to evaluate scientific literature, mastery of a variety of laboratory procedures, skill in planning and executing an important research project in pharmacology, and the ability to communicate results, analysis, and interpretation. These skills provide a sound basis for successful scientific careers in academia, government, or industry.

To apply to BBSP, students must use The Graduate School's online application form (http://gradschool.unc.edu/admissions/). They should read carefully the information for domestic or international applicants before beginning the application. For Question 2 of the application, applicants should scroll down to School of Medicine and select "Biological and Biomedical Sciences" from the dropdown list.

The following materials are required for an application to be considered complete:

1. Nonrefundable application fee (the department cannot review the application until this is paid)
2. Copies of each of the student's transcripts
3. Letters of recommendation (submit online)
4. Personal statement (submit online)
5. GRE scores (must be less than five years old; UNC–Chapel Hill institution code is 5816)
6. TOEFL score (must be less than two years old and is necessary only if the student is an international applicant who does not have an undergraduate degree from a United States university)

For Graduate School information and submission of application materials, please consult the Graduate School Admissions Office Web site (http://gradschool.unc.edu/admissions/).

For program information and submission of application materials, prospective applicants may write to the following address:

BBSP Admissions
130 Mason Farm Road
1125 Bioinformatics Bldg.
CB#7108
University of North Carolina
Chapel Hill, NC 27599-7108
Telephone: (919) 843-6960
Email: bbsp@unc.edu

Pharmacology, Ph.D.

The basic course requirements for the Ph.D. degree include introductory and advanced courses in pharmacology and related programs in accord with the principal interest of the students in molecular pharmacology, neuropharmacology, or toxicology. In addition, in order to satisfy the requirements of the department and The Graduate School, the student must pass written and oral doctoral examinations, write a dissertation based on original research, and submit to a final oral examination. Under special circumstances the department will offer a program leading to the M.S. degree. The requirements are appropriate coursework, a written

comprehensive examination, a thesis based on original research, and a final oral examination.

Course Requirements

Code	Title	Hours
Core Courses		
PHCO 701	Introduction to Molecular Pharmacology	3
PHCO 702	Principles of Pharmacology and Physiology	3
BBSP 710	Biostatistics for Laboratory Scientists [1]	2
PHCO 730	Seminar in Recent Advances in Pharmacology	1
PHCO 732	Grant Writing	2
Electives		
Select from the elective course options below or any 600 level course or above in the hard sciences.		4
Thesis/Substitute or Dissertation		
PHCO 994	Doctoral Research and Dissertation [2]	12
Minimum Hours		**27**

[1] Can be substituted by an equivalent grad-level class in statistics – PL – depending on the substitution, this could result in 2 fewer credits being required.

[2] This 3-credit course must be taken four times for a total credit of 12. Most students will take about 20 – 30 credits of PHCO 994, far more than the 12 required credits.

Code	Title	Hours
Pharmacology Elective Course Options		
PHCO 667	Macromolecular Crystallographic Methods	2
PHCO 669	Macromolecular Crystallographic Methods II	1
PHCO 728	Neuropharmacology of Alcohol and Substance Use	3
PHCO 733	Drug Discovery and Development	2
PHCO 737	Target-Based Drug Discovery and Cancer Treatment	2
PHCO 740	Contemporary Topics in Cell Signaling: Phosphorylation Control	1
PHCO 741	Contemporary Topics in Cell Signaling: GTPases	1
PHCO 742	Contemporary Topics in Cell Signaling: Cell Cycle Control	1
PHCO 743	Contemporary Topics in Cell Signaling: Signaling Networks	1
PHCO 744	Topics on Stem Cells and Development	2
PHCO 745	Intercellular Signaling in Development and Disease	1
PHCO 749	Practical RNA-Seq	2
PHCO 750	Proteomics Methods and Applications	1.0

Milestones

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 27) for more information.

- Doctoral Committee
- Doctoral Written Exam 2
- Prospectus Oral Exam
- Advanced to Candidacy
- Dissertation Defense
- Doctoral Dissertation Approved/Format Accepted
- Residence Credit
- Doctoral Exit Survey

Professors

James Bear, Cell Motility, Migration, and Cancer Metastasis[1]
Jean Cook, Cell Cycle Control in Human Cells
Adrienne D. Cox, Ras Family Oncogenes, Lipid Modification and Protein Function[1]
Fulton T. Crews, Excitotoxicity, Gene Delivery, Neuroprogenetor Stem Cells and Addiction
Blossom Damania, Intersection of Viruses, Cancer Biology and Immunology with the Goal of Treating Virus-Associated Cancers.[1]
Channing Der, Ras Protein Superfamily, Signal Transduction and Oncogenesis
J. Alex Duncan, Inflammation and Immune Response and Host Pathogen Interactions[1]
H.G. Dohlman, Receptor and Signal Transduction: Mechanisms of Drug Desensitization[1]
H. Shelton Earp, Growth Regulation, Growth Factor and Protein Kinases[1]
Timothy Elston, Mathematical Modeling of G-Protein and MAP Kinase Signaling
Michael Emanuele, Cell Cycle, Mitosis, Protein Stability, Ubiquitin, Cancer, Genetics, Cell Biology
Shawn Gomez, Computational Biology, Systems Biology, Cancer[1]
Lee M. Graves, Kinome Proteomics and Signal Transduction, Cancer Drug Resistance
Klaus Hahn, Development of Fluorophores for Site-Specific Protein Labeling, Live Cell Biosensors and Their Biological Applications, Motility, Apoptosis, and Crosstalk in Signaling
Clyde Hodge, Molecular Mechanisms Mediating the Reinforcing/Pleasurable Subjective Effects of Alcohol and Other Drugs[1]
Brian Jensen, Transthoracic and Transesophageal Echocardiography, Heart Failure, Myocardial Biology, Adrenergic Receptor Biology1
Gary L. Johnson, Receptors/G-Proteins, Defining the Signal Relay Systems Initiated by Various Cellular Stimuli (Including Cytokines), Growth Factors, Antigens, and Drugs Used to Treat Human Disease
Alan Jones, Heterotrimeric G-Protein Signaling in Model Systems[1]
Thomas Kash, Neurophysiological Alterations Underlying Dysregulated Emotional Behavior
Terrance Kenakin, Drug Discovery and Development for Seven Transmembrane Receptors, Protein Allosteric Mechanisms/Signal Efficacy
William Kim, Cancer Genetics
David Lawrence, Chemical Biology of Signal Transduction[1]
Nigel Mackman, Role of Tissue Factor in Hemostasis, Thrombosis and Ischemia-Reperfusion (I/R), Injury[1]
Leslie Morrow, Molecular Neuropharmacology of GABA Receptors and Alcohol
Robert A. Nicholas, G-Protein-Coupled P2Y Receptors, Mechanisms of Antibiotic Resistance[1]
Bryan Roth, Regulation of Signaling and Trafficking, Drug Discovery
Janet Rubin, Mechanical and Hormonal Control of Bone Remodeling, Mesenchymal Stem Cell Differentiation, and Osteoporosis[1]
R. Jude Samulski, Development of Efficient Viral Vectors for Gene Delivery into Eukaryotic Genes
John Sondek, X-Ray Crystallography and Transmembrane Signaling
Juan Song, Adult Neurogenesis Function and Regulation

Susan Sumner, Precision Nutrition, Personalized Medicine, Biomarkers, Metabolomics and Integrated-Omics[1]
Jen Jen Yeh, Gene Expression Profiling of Human Tumors; Study, Development, and Evaluation of Novel Therapeutics; Pancreatic and Colorectal Cancer[1]
Samuel Young, Genetics and Metabolism
Yanping Zhang, Molecular Basis of Cancer[1]

Associate Professors

J. Mauro Calabrese, Epigenetic Control by Long Noncoding RNAs, Genomics, Stem Cells, Cancer, Human Genetic Disorders
James Fiordalisi
Laura Herring, UNC Metabolomics and Proteomics
Zoe McElligott, Substance Abuse, Anxiety and Depression
Yinglong Miao, Biomolecular Modeling, Cellular Signaling, Computer-Aided Drug Design
Somnanth Mukhopadhyay, Cannabinoid and G-Protein Coupled Receptor-Mediated Regulation of Neurogenesis and Angiogenesis
Nathan Nicely, Macromolecular Crystallography & Protein Expression and Purification Cores
Kevin Pruitt, Wnt Signaling, Disheveled, Cancer Epigenetics, Aromatase, Tumor Microenvironment (TME), Post-Translational Modifications (PTMs), Nuclear Localization
Kimberly Ritola
Gregory Scherrer, Pain and Opioids [1]
William Zamboni, Application of Pharmacokinetic, Pharmacodynamic, and Pharmacogenetic Principles in the Optimization of the Chemotherapeutic Treatment of Cancer, Nanoparticle Drug Delivery [1]
Qisheng Zhang, Lipid Signaling in Development and Disease[1]

Assistant Professors

Maria Aleman, Non-Malignant Hematology with a Focus on Erythropoiesis, RNA Regulation, and Iron Metabolism
Edward Bahnson, Vascular Biology, Redox Biology, Vascular Disease, Drug Delivery [1]
Adriana Beltran Lopez, Human Pluripotent Cell Core Genetics [1]
Nicholas G. Brown, Cell Cycle, Mitosis, Ubiquitin Ligases, Anaphase Promoting Complex
Elizabeth Brunk, Multi-Omics Data Integration, Cancer Genomics, Machine Learning & Bioinformatics, Functional Precision Medicine
Kirsten Bryant, Autophagy, Pancreatic Cancer, Cancer Metabolism, RAS Oncogenes, Molecular Therapeutics
Leon Coleman, Immune Mechanisms in Drug Addiction and Critical Illness, Neurodegeneration, Extracellular Vesicle Signaling
Daniel Dominguez, Gene Regulation, RNA Processing and RNA Binding Proteins in Cell Signaling and Disease
Laura Ferguson, Alcohol Use Disorders
Melissa Herman, How Structural Changes of Inhibitory Neuronal Networks Contribute to Addiction and Stress
Wesley R. Legant, Microscopy, 3D Image Analysis, Biomaterials, Cell Migration, Cancer Metastasis, Tissue Engineering
John Morris, Oncogene & Tumor Suppressor Networks, Malignant Specification & Lineage Plasticity, Evolution of Cancer Epigenetic & Genomic Heterogeneity
Adam Palmer, Combination Cancer Therapy
Laura Rupprecht, Gut-Brain Mechanisms Underlying Substance Use Disorder
Jonathan C. Schisler, Cardiovascular Genomics, Proteinopathies, and Cellular Metabolism in Neuronal and Cardiovascular Disease
Jessica Walsh, Neural Circuit Mechanisms Underlying Motivated Behavior, Neurodevelopmental & Psychiatric Disorders, Functional & Anatomical Mapping of the Brain

Adjunct Professors

Antoinio Baines, Molecular Targets Involved in the Transformation of Pancreatic Cancer[1]
John Cidlowski, Glucocorticoid Hormone Action[1]
Jeffrey Diberto
Thomas Helton
Ekhson Holmuhamedov[1]
Sommath Mukhopadhyay, Cannabinoid and G-Protein Coupled Receptor-Mediated Regulation of Neurogenesis and Angiogenesis
Ricardo Richardson[1]
Ryan Strachan
Enrique Teran

Professors Emeriti

T. Kendall Harden
Alan Jones
Rudolph L. Juliano
Ryszard Kole
Ken McCarthy
Gene A. Scarborough

[1] *joint faculty members*

PHCO

Graduate-level Courses

PHCO 701. Introduction to Molecular Pharmacology. 3 Credits.
Permission of the instructor. A first-year pharmacology course outlining the basics of molecular pharmacology, including molecular biology, drug and receptor interactions, receptors and ion channels, regulation of second messengers, and drug metabolism. Three lecture hours a week.

Rules & Requirements
Grading Status: Letter grade.

PHCO 702. Principles of Pharmacology and Physiology. 3 Credits.
Introduces students to the major areas of pharmacology and physiology and serves as a basis for more advanced courses. Three lecture hours a week.

Rules & Requirements
Requisites: Prerequisite, CHEM 430; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Same as: TOXC 702.

PHCO 705. Behavioral Pharmacology. 3 Credits.
Basic principles of pharmacology and behavior analysis are considered in relation to drugs that affect the central nervous system.

Rules & Requirements
Requisites: Prerequisite, PSYC 404; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Same as: PSYC 705, NBIO 705.

PHCO 707. Advanced Toxicology. 3 Credits.
Cellular and physiological basis of toxicity of environmental chemicals, with emphasis on inhalation toxicology, developmental toxicology, immunotoxicology, radiation toxicology, renal toxicology, and neurotoxicology. Three lecture hours per week.

Rules & Requirements
Requisites: Prerequisite, PHCO 702; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Same as: TOXC 707, ENVR 707.

PHCO 722A. Cellular and Molecular Neurobiology: Introduction and Electrical Signaling. 2 Credits.
Permission of the department. This course explores the experimental and theoretical function of the nervous system. Typically, the first hour is fundamental material presentation and the second hour may be a presentation led by the students. Topics covered include: cellular diversity in the CNS, gross brain anatomy, human and rodent brain imaging, neuromolecular genetics, behavioral methods, membrane potentials/resistance/capacitance, ion channel structure, electrophysiology and propagation of electrical signals in neurons. Basic undergraduate biology, chemistry, physics and intro calculus is assumed.

Rules & Requirements
Grading Status: Letter grade.
Same as: NBIO 722A, BIOC 722A.

PHCO 722B. Cellular and Molecular Neurobiology: Postsynaptic Mechanisms-Receptors. 2 Credits.
Permission of the department. Consideration of membrane receptor molecules activated by neurotransmitters in the nervous system with emphasis on ligand binding behavior and molecular and functional properties of different classes of receptors. Course meets for four weeks with six lecture hours per week.

Rules & Requirements
Grading Status: Letter grade.
Same as: NBIO 722B, BIOC 722B.

PHCO 725. Signal Transduction. 2 Credits.
Seminar/discussion course on molecular aspects of the receptors, G-proteins, effector proteins, kinases, and phosphatases that mediate hormone, neurotransmitter, growth factor, and sensory signaling.

Rules & Requirements
Grading Status: Letter grade.
Same as: BIOC 725.

PHCO 726. Adhesion Receptors and Signaling in Cancer and CV Disease. 2 Credits.
Examines the growing number of families of cell adhesion receptors and their role in biological processes including signal transduction, control of gene expression, hemostasis, cancer, neuronal development, immunobiology, and embryologic development.

Rules & Requirements
Grading Status: Letter grade.

PHCO 727. Structure and Function of Ion Channels. 2 Credits.
Seminar/discussion course on the physiology, pharmacology, biochemistry, and molecular biology of ion channel proteins.

Rules & Requirements
Grading Status: Letter grade.

PHCO 728. Neuropharmacology of Alcohol and Substance Use. 3 Credits.
A lecture/discussion course on the biological bases of alcohol and substance abuse.

Rules & Requirements
Grading Status: Letter grade.

PHCO 729. Gene Therapy: Medicine for the 21st Century. 2 Credits.
A seminar/discussion course on recent advances in targeted gene delivery and gene therapy.

Rules & Requirements
Grading Status: Letter grade.

PHCO 730. Seminar in Recent Advances in Pharmacology. 1 Credits.
Students meet as a group with faculty members to develop skills in critical reading and to summarize and discuss selected aspects of current pharmacological literature. Two hours a week. Fall and spring.

Rules & Requirements
Grading Status: Letter grade.

PHCO 732. Grant Writing. 2 Credits.
A discussion course covering the elements of successful grant proposals and scientific ethics.

Rules & Requirements
Requisites: Prerequisite, PHCO 701; Permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

PHCO 733. Drug Discovery and Development. 2 Credits.
A seminar/discussion course on the research, development, and regulatory processes involved in bringing new drugs to clinical use.

Rules & Requirements
Grading Status: Letter grade.

PHCO 734. Pain and Analgesia. 2 Credits.
A lecture/discussion course on pain transmission and pain measurement. The neuropharmacological basis of pain modulation will be discussed.

Rules & Requirements
Grading Status: Letter grade.

PHCO 735. Discovery Biology and Pharmacogenomics. 2 Credits.
Lecture/discussion course covering a variety of aspects of new biological and computational technologies. The course is predominantly in a lecture format with computer-based and literature assignments.

Rules & Requirements
Grading Status: Letter grade.

PHCO 736. Protein Kinases as Targets for Novel Pharmacological Inhibitors. 2 Credits.
A seminar/discussion course to evaluate the use of small molecule inhibitors of protein kinases from a structural and signal transduction perspective.

Rules & Requirements
Grading Status: Letter grade.

PHCO 737. Target-Based Drug Discovery and Cancer Treatment. 2 Credits.
A lecture/discussion course that emphasizes preclinical and clinical studies for the development of anti-cancer drugs that target signal transduction. Topics include: target identification and validation, drug discovery, the process of government approval for clinical trials, design of clinical trials, and new genetic-based technologies to foster drug development.

Rules & Requirements
Grading Status: Letter grade.

PHCO 739. Reprogramming of Somatic and Stem Cells and Its Applications in Pharmacology. 2 Credits.
The objective of this new elective is to provide graduate students with an overview of stem cell biology with a unique emphasis on the applications of stem cells in pharmacology, particularly in areas of cancer and tissue regeneration.

Rules & Requirements
Grading Status: Letter grade.

PHCO 740. Contemporary Topics in Cell Signaling: Phosphorylation Control. 1 Credits.
Required preparation, coursework in biochemistry, pharmacology and/or cell & molecular biology. Permission of the instructor. This graduate-level course is an in-depth analysis of how protein kinases and protein phosphorylation regulates key aspects of cell signaling. This class is one of the "Contemporary Topics in Cell Signaling" modules.

Rules & Requirements
Grading Status: Letter grade.
Same as: BIOC 740.

PHCO 741. Contemporary Topics in Cell Signaling: GTPases. 1 Credits.
Required preparation, coursework in biochemistry, pharmacology, and/or cell & molecular biology. Permission of the instructor. This graduate-level course conveys principles of signal transduction controlled by GTPases and emphasizes in-depth discussion of current literature and unanswered questions. This class is one of the "Contemporary Topics in Cell Signaling" modules.

Rules & Requirements
Grading Status: Letter grade.
Same as: BIOC 741.

PHCO 742. Contemporary Topics in Cell Signaling: Cell Cycle Control. 1 Credits.
Permission of the instructor. Required preparation, coursework in biochemistry and/or cell & molecular biology. This graduate-level course conveys principles of eukaryotic cell proliferation control emphasizing in-depth discussion of current literature and unanswered questions. This class is one of the Contemporary Topics in Cell Signaling modules.

Rules & Requirements
Grading Status: Letter grade.
Same as: BIOC 742, BIOC 742.

PHCO 743. Contemporary Topics in Cell Signaling: Signaling Networks. 1 Credits.
Acquire the scientific vocabulary of the signaling network field. Master key concepts from mathematical characterization of signaling circuits. Develop and apply critical analysis skills.

Rules & Requirements
Grading Status: Letter grade.
Same as: BIOC 743.

PHCO 744. Topics on Stem Cells and Development. 2 Credits.
Required preparation, coursework in genetics, cell biology, and molecular biology. Permission of the instructor. Course addresses key issues in developmental biology focused on the role of stem cells and emphasizes in-depth discussion of current literature and unanswered questions. One of the Contemporary Topics in Cell Signaling modules.

Rules & Requirements
Grading Status: Letter grade.
Same as: BIOC 744.

PHCO 745. Intercellular Signaling in Development and Disease. 1 Credits.
This graduate-level course concentrates on up-to-date views of intercellular signal processing, with emphasis on signal transduction mechanisms as they relate to cellular/physiological responses in both normal development and disease. Signaling mechanisms that will be discussed include autocrine, paracrine, juxtacrine signaling and cell-matrix interactions.

Rules & Requirements
Grading Status: Letter grade.
Same as: BIOC 745.

PHCO 746. Introduction to Computer Vision Tools for Modern Microscopy. 1 Credits.
This course will introduce computer vision methods for cell biology. Each topic will be motivated with an explanation of a computational challenge, followed by a discussion of available techniques to address the need and practical examples for how to apply the techniques.

Rules & Requirements
Grading Status: Letter grade.

PHCO 747. Biological Concepts. 1.5 Credits.
Overview of structures and biological determinants of conditions and diseases of the oral cavity. Both growth and development and pathophysiology will be introduced in the context of three areas of oral biology: biology of extracellular matrices, host-pathogens interactions, and orofacial neurobiology.

Rules & Requirements
Grading Status: Letter grade.
Same as: OCBM 732, NBIO 732.

PHCO 749. Practical RNA-Seq. 2 Credits.
This course is designed to familiarize students with everything needed to run an RNA-Seq experiment. There will be minimal emphasis on theory and heavy focus on practical aspects. There are no formal prerequisites required for this course and no prior experience with UNIX or the command line interface is expected.

Rules & Requirements
Grading Status: Letter grade.
Same as: GNET 749.

PHCO 750. Proteomics Methods and Applications. 1 Credits.
This course will familiarize graduate students with the fundamental concepts of mass spectrometry-based proteomics with emphasis on its applications (expression proteomics, post-translational modification identification, and interactomics) and practical aspects of these applications, such as experimental design, sample preparation and data interpretation. This course is intended for 2nd year students and above who currently use or plan to use proteomics in their research.

Rules & Requirements
Grading Status: Letter grade.

PHCO 767. Macromolecular Crystallographic Methods. 2 Credits.
A combined lecture/laboratory workshop for serious students of protein crystallography. Course intended primarily for graduate students.

Rules & Requirements
Grading Status: Letter grade.

PHCO 900. Special Pharmacology Research. 3-6 Credits.
Rules & Requirements
Grading Status: Letter grade.

PHCO 901. Research in Pharmacology. 1-15 Credits.
Permission of the department.

Rules & Requirements
Grading Status: Letter grade.

PHCO 951. Research in Neurobiology. 3-12 Credits.
Permission of the department. Research in various aspects of neurobiology. Six to 24 hours a week.

Rules & Requirements
Grading Status: Letter grade.
Same as: NBIO 951, BIOL 951.

PHCO 989. Special Pharmacology Research. 3-6 Credits.
Rules & Requirements
Grading Status: Letter grade.

PHCO 993. Master's Research and Thesis. 3 Credits.
Permission of the department.

Rules & Requirements
Repeat Rules: May be repeated for credit.

PHCO 994. Doctoral Research and Dissertation. 3 Credits.
Permission of the department.

Rules & Requirements
Repeat Rules: May be repeated for credit.

Contact Information

Department of Pharmacology
Visit Program Website (http://www.med.unc.edu/pharm/)

Chair
Henrik Dohlman

UNC ESHELMAN SCHOOL OF PHARMACY (GRAD)

The UNC Eshelman School of Pharmacy offers graduate programs leading to the master of science in pharmaceutical sciences with a specialization in health-system pharmacy administration and to the doctor of philosophy in pharmaceutical sciences with concentrations in one of four research areas: chemical biology and medicinal chemistry; pharmacoengineering and molecular pharmaceutics; pharmacotherapy and experimental therapeutics; or pharmaceutical outcomes and policy. Students from the master of science in pharmaceutical sciences with a specialization in health-system pharmacy administration are competitive for careers in administrative positions in hospital pharmacies and other health systems. Students from the Ph.D. program are competitive for careers in academia, pharmaceutical companies, biotech companies, government agencies such as the FDA, CDC, and NIH, nonprofit research organizations, and a variety of alternative careers including patent law, venture capital, and entrepreneurialism.

Instruction emphasizes contemporary research methods, study design, and results and is delivered in the form of small group lectures/discussions, group activities and recitations, and seminars combined with intensive laboratory-based research. The excellent rapport that exists between schools, departments, institutes, and centers within the University facilitates interdisciplinary collaborative research by graduate students and faculty. The graduate degree programs also benefit from faculty affiliations with GlaxoSmithKline, Inc., the Research Triangle Institute, the Hamner Institutes for Health Sciences, Duke University, the Wake Forest University School of Medicine, and many other organizations in the Research Triangle Park area. The UNC Eshelman School of Pharmacy is housed in Beard Hall, Kerr Hall, Marsico Hall, and the Genetic Medicine Building, which are located on the health sciences campus together with the Adams Schools of Dentistry, the School of Medicine, the School of Nursing and the Gillings School of Global Public Health. The Health Sciences Library has an outstanding collection of books and journals as well as computer and support services. Library and laboratory resources residing in other University departments are also available for use by students and faculty.

Admission to the Ph.D. Program (https://pharmacy.unc.edu/education/phd/)

Applicants who have completed a standard collegiate curriculum in pharmacy, chemistry, biochemistry, biology, engineering, public health, or in an allied field in the University, or in other universities or colleges having curricula acceptable to UNC–Chapel Hill's Graduate School, are eligible for admission to the graduate program in pharmaceutical sciences. Applicants must submit letters of recommendation, official transcripts, and a statement of personal goals as they relate to graduate study at the UNC Eshelman School of Pharmacy. The GRE is not required.

The Graduate School online application (http://gradschool.unc.edu/admissions/)is the standard means of applying for admission. Inquiries concerning admission to programs in the pharmaceutical sciences may be directed to the Office of Student Affairs at osa@unc.edu (ocsa@unc.edu).

All applications to the UNC Eshelman School of Pharmacy's Ph.D. in pharmaceutical sciences program must be submitted through the UNC Graduate School.

Deadlines

Applications typically open in early August and review of applications begins December 1. The official deadlines can be found on the UNC Eshelman School of Pharmacy's website (https://pharmacy.unc.edu/education/phd/apply-now/).

Application Requirements

- Graduate School application
- Nonrefundable $95.00 application fee. Fee scholarships are available. Please contact Will Taylor at osa@unc.edu (ocsa@unc.edu) for more information.
- Three current letters of recommendation. When filling out the Graduate School application, applicants will be asked to submit the email addresses of the recommenders, who will then receive an email with information for logging into the system to submit their letters.
- Transcripts
- Statement of purpose (see below)
- A current email address (The Graduate School only uses email to communicate with applicants.)

Notes

- For Question 2 on the application, make sure you scroll down the list until you see "School of Pharmacy." In the dropdown menu for School of Pharmacy, please select Pharmaceutical Sciences.
- Applicants must indicate only one choice on their application for their division of interest or specialization. Only the first choice of sub plan (i.e., area of interest or specialization) will be considered on their application. Applicants should also describe this choice in their statement of purpose.
- Being admitted to The Graduate School does not imply that you will receive financial assistance of any kind. The awarding of financial assistance is a separate decision.

Questions

Consult the Graduate School's application instructions (http://gradschool.unc.edu/admissions/instructions.html) or contact gradinfo@unc.edu.

Statement of Purpose

To assist in the evaluation of your application, please provide a concise personal statement including the following information.

- Why do you wish to pursue graduate study in pharmaceutical sciences?
- Why do you wish to engage in graduate study at this institution?
- What are your reasons for selecting your first choice of sub plan (i.e., area of interest or specialization)?
- What do you offer that will enrich our graduate program? Please include factors such as:
  - Work, teaching, or other life experiences
  - Meaningful events that have influenced your life and career choices
  - Communication abilities
  - Problem-solving skills
  - Are you a leader, follower, or team player?
  - History of overcoming challenges or disadvantages
  - Cultural diversity (this may include ethnic background, race, and other attributes that define your cultural background)

- If possible, please identify the specific research areas in which you plan to focus your graduate studies. Is there a particular faculty member with whom you would like to work?

Admission to the M.S. Program (https://pharmacy.unc.edu/education/ms/)

Applicants to the master's program must meet both of the following requirements:

- Be a licensed pharmacist in the U.S.
- Hold a doctor of pharmacy (Pharm.D.) or the equivalent

Everything detailed below must be completed prior to the deadline for your application to be considered.

Interested applicants will need to apply to the University of North Carolina Graduate School for their didactic component. The applicant will also need to complete separate applications for each residency program to which they wish to apply — UNC Hospitals, Duke University Health System, Wake Forest Baptist Hospital, Mission Health in Asheville, or Moses Cone in Greensboro. Applicants need only to apply to their residency programs of interest.

Individual interview days will be scheduled at times convenient for applicants and institutions. Each applicant and program will communicate to identify the ideal time to conduct the interview. Our hope is to have all of the interviews for an applicant in one consecutive period.

Each program will participate in the match, but each one has a different match number. If you have not done so already, please make sure to register for the National Matching Service offered through ASHP. Currently there are four positions available at UNC, one at Duke, two at Wake Forest, one at Mission Health, and one at Moses Cone, for a total of nine per cohort.

Application Procedures

- Complete a Graduate School application for admission (see link below)
- Create an online account
- Fill out the application information as follows:
  - Level of Study: Graduate
  - Type of Applicant: New degree-seeking applicant
  - Major: Pharmaceutical Sciences
  - Degree: Master of Science
  - Area of Interest or Specialization: Practice Advancement and Clinical Education
- Select the term of entry
- Fill out the applicant information
- Fill out educational background
- Upload your **unofficial** transcripts — undergraduate and graduate
- Upload a statement of purpose
- GREs are **not required**
- Upload a copy of your CV/resume
- Submit the application and pay the non-refundable $95 application fee
- Provide three letters of recommendation (may be identical to those provided for the residency program application) using the recommendations link on the online application under "Important Links"
- Have your graduate and undergraduate school submit an official academic transcript for each school attended. The graduate school will request official transcripts after acceptance into the program only.

Admission to the M.P.S. Program (https://pharmacy.unc.edu/education/ms-mps/regulatory-science/)

Minimum requirements:

- A completed bachelor's degree (based on a four-year curriculum) or its international equivalent from an accredited institution.
- A cumulative grade point average of 3.0 or better from the bachelor's degree program or an applicable master's degree program.*

** Students who do not meet this admissions requirement may still be admitted. Admissions will be determined on a case-by-case basis.*

Preferred:

- A completed bachelor's or master's degree in the life sciences or engineering.
- Relevant work or research experience.

Application Procedures

Interested applicants will need to apply through the University of North Carolina Graduate School to be enrolled in the M.P.S. in Regulatory Science program. Detailed instructions can be found here (https://gradschool.unc.edu/admissions/instructions.html).

- Complete a Graduate School application for admission here (https://applynow.unc.edu/apply/).
  - Create a new account or log in
  - Choose to start a new application
  - Select an application type:
    - Graduate – Degree Seeking
    - Graduate
  - Choose to "Open Application"
  - Select a major: Regulatory Science
  - Select a degree: Master of Professional Science
  - Choose "No" when asked if you are applying for a dual degree
- Complete the Graduate School application
- Fill out educational background
- Upload your **unofficial** transcripts – undergraduate and graduate, if applicable
- Upload a statement of purpose
- GREs are **not required**
- Upload a copy of your CV/resume
- Submit the application and pay the non-refundable $95 application fee
- Provide three letters of recommendation using the recommendations link on the online application under "Important Links"
- Have your undergraduate school and graduate school, if applicable, submit an official academic transcript for each school attended. The graduate school will request official transcripts after acceptance into the program only.

Graduate Assistantships and Fellowships in the UNC Eshelman School of Pharmacy

Research assistantships in the UNC Eshelman School of Pharmacy provide a competitive stipend, health insurance, tuition, and fees for 12 months' service. All awards are made on a competitive basis with consideration given to the applicant's academic record and research experience. Information concerning these assistantships, fellowships, and traineeships may be obtained by writing directly to the Office of Research and Graduate Education at the UNC Eshelman School of Pharmacy.

Chemical Biology and Medicinal Chemistry

Chemical biology and medicinal chemistry are multidisciplinary fields that integrate organic chemistry, biochemistry, molecular biology, structural biology, pharmacology, and physiology. The research in the division applies and extends the basic concepts of chemistry, biochemistry, and pharmacology to the investigation of biomedical problems. General areas of study include structure-activity relationships, drug-receptor interactions, synthetic drug design, and target discovery and validation. Specific focus areas include cancer chemotherapy, computer-aided drug design, enzymology, glycobiology, molecular modeling, natural products, neurochemistry, parasitology, and structural biology.

Pharmacoengineering and Molecular Pharmaceutics

Pharmacoengineering and molecular pharmaceutics represents interdisciplinary specialties encompassing a range of scientific endeavors, including the design, fabrication, evaluation, use of, and delivery strategies for dosage forms; elucidation of the behavior of pharmacologic agents in biologic systems; determination of the ability of pharmacologic agents to reach the relevant site of biologic effect; and determination of the time course of biologic activity.

These areas of specialization represent critical steps in the development of new therapeutic agents, the evaluation of new and existing drugs, and the optimal clinical use of pharmacologic agents.

Students in the Division of Pharmacoengineering and Molecular Pharmaceutics are required to participate in a common core of entry-level graduate courses. This core provides a broad perspective of the pharmaceutical sciences as well as an appreciation for how different subdisciplines interact. Many dissertation projects are collaborative in nature and rely upon interactions with faculty in other divisions of the UNC Eshelman School of Pharmacy, as well as with colleagues in the UNC School of Medicine, the Department of Chemistry, or at pharmaceutical companies or institutions located in the Research Triangle Park area.

Pharmaceutical Outcomes and Policy

The Division of Pharmaceutical Outcomes and Policy offers a Ph.D. program in pharmaceutical sciences emphasizing an interdisciplinary approach to addressing issues relevant to medication use at the patient, provider, community, and societal levels. Faculty research interests and course offerings reflect this interdisciplinary orientation. Students develop knowledge and skills that enable them to conduct high quality research directed at improving the use and cost effectiveness of medications, technology, and services. Education and research in the division draws heavily upon expertise in numerous fields such as health services research, health policy, health economics, health communication, health behavior and behavior change, epidemiology, and psychometrics. Areas of faculty and student research include communication and decision making, de-prescribing and pharmacy practice models, medication adherence and self-management, health disparities, health literacy, patient reported outcomes assessment, pharmaceutical policy analysis, and policy and ethical issues related to pharmacogenomics.

Pharmacotherapy and Experimental Therapeutics

The Division of Pharmacotherapy and Experimental Therapeutics offers a Ph.D. program in the pharmaceutical sciences with a focus on translational research that integrates biomedical and pharmaceutical sciences in both laboratory-based models and in humans. The goal of the program is to develop scientists who are prepared to generate and disseminate new knowledge in pharmacotherapy and accelerate its application to improve patient care. Graduate students engage in clinical experiences throughout the program that are designed to complement each student's research interests while also facilitating their development as translational scientists. Areas of graduate coursework and research include drug metabolism and transport, pharmacokinetics/pharmaco-dynamics/pharmacometrics, pharmacogenomics, clinical research, drug development, experimental therapeutics, and mechanisms of drug toxicity. Therapeutic and research areas of particular strength include cardiovascular disease, infectious disease/HIV, oncology/hematology, hepatology/gastroenterology/transplant, and pulmonary disease.

Master of Science in Pharmaceutical Sciences

The Eshelman School of Pharmacy offers a master of science in pharmaceutical sciences concentrating in health system pharmacy administration.

The M.S. program prepares future health care leaders to manage highly complex and multifaceted pharmacy enterprise operations. To accomplish this goal, the program provides students with the knowledge, skills, and experience necessary to assume a variety of roles and responsibilities. Graduates serve as vibrant, committed professionals with a focus on improving patients' health, health care delivery, and the profession of pharmacy. This occurs through both didactic education and experiential opportunities in class and in the workplace.

The residential M.S. program is designed for full-time students with a Pharm.D. degree who are seeking residency training experience.

The fully online M.S. program is designed for professionals with a pharmacy degree who want to secure their degree while working.

Master of Professional Science in Regulatory Science

The Eshelman School of Pharmacy offers a master of professional science in regulatory science.

There is an increasing need for well-trained regulatory professionals who understand how regulatory science can advance pharmaceutical product development from concept to market and beyond. The M.P.S. program prepares future regulatory professionals to play a critical role in the public and private sector to ensure that pharmaceutical products are safe and effective for human use. Our program is distinctive in the

balance of advanced regulatory science and critical business skills, including an internship experience that allows students to put all their skills to practice. We ensure our students are well-equipped to succeed in a regulatory science role and as a future leader in the field. No other regulatory science program offers a master of professional science, and we are proud to be recognized by the National Professional Science Master's Association (NPSMA).

This fully online M.P.S. program is a hybrid of asynchronous and synchronous learning. It is designed with maximum flexibility built in to accommodate professionals who want to secure their degree while working.

Find our world renowned faculty listed here (https://pharmacy.unc.edu/education/pharmd/faculty-staff/).

Subjects in this school include: Chemical Biology and Medicinal Chemistry (CBMC) (https://pharmacy.unc.edu/education/phd/drug-discovery/), Pharmacoengineering and Molecular Pharmaceutics (DPMP) (https://pharmacy.unc.edu/education/phd/drug-delivery/), Pharmacotherapy and Experimental Therapeutics (DPET) (https://pharmacy.unc.edu/education/phd/drug-optimization/), Pharmaceutical Outcomes and Policy (DPOP) (https://pharmacy.unc.edu/education/phd/patient-outcomes/), P (p.)harmacy Administration and Leadership (https://pharmacy.unc.edu/education/ms/), and P (p.)rofessional Science (https://pharmacy.unc.edu/education/ms-mps/regulatory-science/) – (https://pharmacy.unc.edu/education/ms-mps/regulatory-science/) Regulatory Science (https://pharmacy.unc.edu/education/ms-mps/regulatory-science/).

Note that the courses listed below are not listed in the order and number of times that they must be completed. See the program's website for more detailed information about the sequence of courses and credit hour totals. The program's website also provides information about concentrations.

Chemical Biology and Medicinal Chemistry

Code	Title	Hours
CBMC 804A	Biochemical Foundations of Chemical Biology	3
CBMC 804B	Biochemical Foundations of Chemical Biology Journal Club	1
CBMC 805	Molecular Modeling	3
CBMC 807	Foundations of Chemical Biology I: Organic and Medicinal Chemistry	3
Graduate level Biology course		
CHEM 701	Introduction to Laboratory Safety	1
PHRS 801	Foundations for Cross-Disciplinary Training in the Pharmaceutical Sciences	1-3
PHRS 802	Drug Development and Professional Skills Development	1
PHRS 899	Seminar in Pharmaceutical Sciences	1
PHRS 991	Research in Pharmaceutical Sciences	1-9
PHRS 994	Doctoral Research and Dissertation	3

Pharmacoengineering and Molecular Pharmaceutics

Code	Title	Hours
DPET 853	PK Module 1: Pharmacokinetic Concepts and Applications	1.75
DPMP 738	Nanomedicine	3
DPMP 862	Living Medicines and Biologic Delivery Systems	1.5
DPMP 863	Drug Delivery and Nanomedicine I	3
DPMP 864	Drug Delivery and Nanomedicine II	3
PHRS 801	Foundations for Cross-Disciplinary Training in the Pharmaceutical Sciences	1-3
PHRS 899	Seminar in Pharmaceutical Sciences	1
PHRS 991	Research in Pharmaceutical Sciences	1-9
PHRS 994	Doctoral Research and Dissertation	3

Pharmacotherapy and Experimental Therapeutics

Clinician Track

Code	Title	Hours
BIOS 600	Principles of Statistical Inference	3
DPET 816	Drug Metabolism	1.5
DPET 822	Advanced Clinical Pharmacy	1
DPET 831	Quantitative Methods in Clinical Research	3
DPET 833	Experimental Design Considerations in Clinical Research	2
DPET 853	PK Module 1: Pharmacokinetic Concepts and Applications	1.75
DPET 854	PK: Module 2: Pharmacodynamic Concepts and Applications	1.25
DPET 857	PK Module 3: Population PK/PD Analysis	2
DPET 858	PK Module 4: Advanced PK/PD Modeling	2
DPET 873	Precision Therapeutics Through Genomics	1.5
PHRS 801	Foundations for Cross-Disciplinary Training in the Pharmaceutical Sciences	1-3
PHRS 802	Drug Development and Professional Skills Development	1
PHRS 899	Seminar in Pharmaceutical Sciences	1
PHRS 991	Research in Pharmaceutical Sciences	1-9
PHRS 994	Doctoral Research and Dissertation	3
Approved elective courses		

Non-Clinician Track

Code	Title	Hours
BIOS 600	Principles of Statistical Inference	3
DPET 816	Drug Metabolism	1.5
DPET 831	Quantitative Methods in Clinical Research	3
DPET 833	Experimental Design Considerations in Clinical Research	2
DPET 853	PK Module 1: Pharmacokinetic Concepts and Applications	1.75
DPET 854	PK: Module 2: Pharmacodynamic Concepts and Applications	1.25
DPET 857	PK Module 3: Population PK/PD Analysis	2

DPET 858	PK Module 4: Advanced PK/PD Modeling	2
DPET 873	Precision Therapeutics Through Genomics	1.5
PHCY 510	Foundations of Clinical Pharmacology	3
PHRS 801	Foundations for Cross-Disciplinary Training in the Pharmaceutical Sciences	1-3
PHRS 802	Drug Development and Professional Skills Development	1
PHRS 899	Seminar in Pharmaceutical Sciences	1
PHRS 991	Research in Pharmaceutical Sciences	1-9
PHRS 994	Doctoral Research and Dissertation	3
Approved elective courses		

Pharmaceutical Outcomes and Policy

Code	Title	Hours
DPOP 803	Social and Behavioral Aspects of Pharmaceutical Use	3
DPOP 806	Pharmaceutical Policy	3
DPOP 872	Proposal Writing in DPOP	3
EPID 710	Fundamentals of Epidemiology	3
EPID 765	Methods and Issues in Pharmacoepidemiology	3
PHRS 801	Foundations for Cross-Disciplinary Training in the Pharmaceutical Sciences	1-3
PHRS 815	Foundations in Implementation Science: Examples in Precision Health and Society	1.5
PHRS 899	Seminar in Pharmaceutical Sciences	1
PHRS 994	Doctoral Research and Dissertation	3
Statistics electives (9 credit hours)		
Approved elective courses (9 credit hours)		

Pharmacy Administration and Leadership (M.S.)

Code	Title	Hours
PACE 815	Evaluation Research and Project Design	3
PACE 820	Health-System Pharmacy Leadership	3
PACE 825	Foundational Practices of a Successful Health-System Department of Pharmacy	4
PACE 832	Financial Management of Health-system Pharmacy	3
PACE 833	Overview of Health Systems	3
PACE 860	Advanced Hospital Pharmacy Operations	3
PHRS 899	Seminar in Pharmaceutical Sciences	1
PHRS 991	Research in Pharmaceutical Sciences	1-9
PHRS 992	Master's (Non-Thesis)	3

Professional Science – Regulatory Science (M.P.S.)

Code	Title	Hours
PHRS 700	Making Medicines asynchronous	0.5
PHRS 701	Fundamentals of Regulatory Affairs asynchronous	2
PHRS 702	Preclinical Development asynchronous	2
PHRS 703	Chemistry, Manufacturing, and Controls asynchronous	2
PHRS 704	Clinical Development asynchronous	2
PHRS 705	Postmarketing Topics asynchronous	2
PHRS 710	Biostatistics asynchronous	1
PHRS 711	Emerging Topics in Regulatory Science asynchronous	2
PHRS 810	Regulatory Communication synchronous	2
PHRS 811	Regulatory Strategy synchronous	2
PHRS 890	Special Topics in Pharmaceutical Sciences (Seminar Series) synchronous	1
PHRS 991	Research in Pharmaceutical Sciences (Independent Research Project) practicum	3
PHRS 992	Master's (Non-Thesis) (Internship) practicum	3
GRAD 712	Leadership in the Workplace synchronous	1.5
GRAD 713	Applied Project Management: Frameworks, Principles and Techniques synchronous	1.5
GRAD 725	Build Your Professional Brand: Develop Job Search Skills and Materials to Make Employers Notice You synchronous	1.5
GRAD 758	Managing People and Professional Relationships synchronous	1.5
GRAD 727	Team Collaboration synchronous	1.5

Contact Information

UNC Eshelman School of Pharmacy
Visit Program Website (http://pharmacy.unc.edu)

Assistant Dean for Graduate Studies
Michael Jarstfer
jarstfer@unc.edu

DEPARTMENT OF PHILOSOPHY (GRAD)

The graduate program in philosophy is designed to equip students to engage with both perennial and cutting-edge philosophical enquiry. The program is intended to prepare students for college and university positions in philosophy.

The Department of Philosophy offers a program of study leading to the Ph.D. in philosophy. Prerequisite for admission to graduate work in the department is a B.A. degree or equivalent, typically with a major in philosophy, with a broad range of courses. Students earn an M.A. as part of the Ph.D. program. For information about graduate student funding, please visit the department's website (http://philosophy.unc.edu/graduate/funding/).

The department maintains close relations with the Department of Philosophy at Duke University (https://philosophy.duke.edu/). Graduate students from either institution may register for credit in graduate courses or seminars at the other institution and may include faculty members from either on their dissertation committees. Library facilities are available to students at each institution.

Candidates for the master's degree must satisfactorily complete 30 semester hours of graduate work. This coursework must include PHIL 700 in the first semester of the program. Candidates must also satisfy a Formal Methods Requirement (normally by taking either PHIL 455 or PHIL 458) as well as various Distribution Requirements detailed in the Handbook of the Graduate Program in Philosophy. Successfully completing an M.A. thesis is also a condition for receiving the degree of master of arts.

Candidates for the doctoral degree must satisfactorily complete 60 semester hours of graduate work, including six hours of Ph.D. dissertation credit. There are further Distribution Requirements, again, detailed in the Handbook of the Graduate Program in Philosophy.

The candidate for the degree of doctor of philosophy must pass two examinations. First, there is the Admission to Candidacy examination, which itself has two parts: a written general portion and a special oral portion. The written portion, normally taken in the spring term of the third year, is in the student's field of specialization. The oral portion tests the feasibility of the dissertation proposal and is normally taken in the fall term of the fourth year. Second, there is an oral defense of the completed dissertation. For further details on degree requirements, see The Graduate School Handbook (https://gradschool.unc.edu/handbook/).

More information about the philosophy graduate program may be found on the department's website (http://philosophy.unc.edu/).

Following the faculty member's name is a section number that students should use when registering for independent studies, reading, research, and thesis and dissertation courses with that particular professor.

Distinguished Professors

Thomas Hofweber (42), Metaphysics, Philosophy of Language, Epistemology, Philosophy of Mathematics, Artificial Intelligence
Marc Lange (44), Philosophy of Science, Metaphysics, Epistemology
C. D. C. Reeve (39), Ancient Philosophy, Metaphysics, Moral Psychology, Ethics
Geoffrey Sayre-McCord (25), Moral Theory, Metaethics, Epistemology, History of Modern Philosophy

Professors

Luc Bovens (52), Philosophy and Public Policy, Rationality, Moral Psychology, Formal Epistemology
Thomas Dougherty (55), Ethics, Political Philosophy
Markus Kohl (51), History of Modern Philosophy, History of Ancient Philosophy, Moral Psychology, Existentialism
Matthew Kotzen (46), Epistemology, Philosophy of Science, Philosophy of Law
Mariska Leunissen (41), Ancient Philosophy, Philosophy of Science
Ram Neta (43), Epistemology, Philosophy of Mind
James Pryor (57), Epistemology, Philosophy of Language, Logic, Philosophy of Mind, Philosophy of Action, Metaphysics
John T. Roberts (37), Philosophy of Science, Philosophy of Physics, Metaphysics
Sarah Stroud (54), Moral Theory, Moral Psychology, Metaethics, Philosophy of Action
Rebecca Walker (53), Bioethics, Ethical Theory
Alexander Worsnip (50), Epistemology, Metaethics, Theory of Rationality

Associate Professors

Jessica Keiser (62), Philosophy of Language, Social and Political Philosophy
Patricia Marechal (63), Ancient Philosophy

Assistant Professors

Rosalind Chaplin (59), History of Modern Philosophy, Moral Psychology
Pietro Cibinel (66), Moral Philosophy, Decision Theory, Epistemology
Daniel Herrmann (64), Philosophy of AI, Game and Decision Theory, Formal and Social Epistemology, Philosophy of Science

Harry Lloyd (65), Moral and Political Philosophy, Applied Ethics, AI

Daniel Muñoz (58), Ethics, Philosophy of Action
Margaret Shea (61), Ethics, Metaethics, Moral Psychology, Aesthetics

Professors Emeriti

Bernard Boxill
Thomas E. Hill Jr.
William G. Lycan
Douglas MacLean
Stanley Munsat
Alan Nelson
Gerald J. Postema
Michael D. Resnik
Robert D. Vance
Susan Wolf

PHIL

Advanced Undergraduate and Graduate-Level Courses

PHIL 411. Aristotle. 3 Credits.
An examination of some representative works of Aristotle, with reference to common emphases and basic problems, together with an analysis of their philosophic content. The aim to provide students with a more thorough understanding of the key texts, doctrines, notions, and ideas in Aristotle's philosophy as a whole and with the capacities and confidence to conduct a short, independent, ancient philosophical research project on Aristotle's philosophy.

Rules & Requirements

IDEAs in Action Gen Ed: FC-PAST, RESEARCH.
Grading Status: Letter grade.

PHIL 412. Plato. 3 Credits.
An examination of some representative works in the context of contemporary scholarship.

Rules & Requirements

IDEAs in Action Gen Ed: FC-PAST.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

PHIL 415. Medieval Philosophy. 3 Credits.
An intensive study of some medieval philosophical author (e.g., Aquinas, Scotus, or Ockham) or topic (e.g., arguments for the existence of God, universals, knowledge of individuals).

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

PHIL 421. Rationalism. 3 Credits.
An in-depth study of such rationalist philosophers as Descartes, Spinoza, and Leibniz.

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING or FC-PAST.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

PHIL 422. Empiricism. 3 Credits.
An in-depth study of such empiricist philosophers as Locke, Berkeley, and Hume.

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING or FC-PAST.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

PHIL 423. Kant's Theoretical Philosophy. 3 Credits.
An intensive introduction to Kant's accounts of space, time, concepts, perception, substance, causation, and the thinking self through a careful study of his masterwork, The Critique of Pure Reason.

Rules & Requirements

IDEAs in Action Gen Ed: FC-PAST.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

PHIL 424. Kant's Practical Philosophy. 3 Credits.
This course studies closely Kant's practical philosophy, dedicated to understanding and assessing the answers that Kant gives to classic questions of practical philosophy, such as: What does morality demand from us? What is the morally right course of action? Is morality objective? Do moral norms depend on God?

Rules & Requirements

IDEAs in Action Gen Ed: FC-PAST.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

PHIL 426. Nietzsche. 3 Credits.
This course examines the philosophy of Friedrich Nietzsche, covering all three conventionally recognized periods of his philosophy in chronological sequence, tracing the historical and philosophical development of his views from the early Birth of Tragedy to the late Twilight of Idols. The main question we will face when studying all these different writings is how Nietzsche tries to solve the problem of nihilism. Completion of one previous PHIL course preferred.

Rules & Requirements

IDEAs in Action Gen Ed: FC-PAST or FC-VALUES.
Grading Status: Letter grade.

PHIL 427. Hegel. 3 Credits.
In-depth study of Hegel's systematic philosophy emphasizing its roots in Kant's critical philosophy. Primary focus on Phenomenology of Spirit, supplemented by selections from the Encyclopedia and Philosophy of Right.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

PHIL 428. History of American Philosophy. 3 Credits.
An in-depth study of American contributions to philosophy, including for example the transcendentalists, the pragmatists, Quine, Rorty, and others.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

PHIL 432. The Beginnings of Analytic Philosophy. 3 Credits.
Frege, Russell, Moore, and Wittgenstein among others are considered.

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING.
Requisites: Prerequisites, PHIL 155 and two additional philosophy courses are recommended as background.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

PHIL 433. Current Issues in Analytic Philosophy. 3 Credits.
Two courses in philosophy other than PHIL 155 strongly recommended. Recent work in epistemology and metaphysics.

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING.
Repeat Rules: May be repeated for credit. 9 total credits. 3 total completions.
Grading Status: Letter grade.

PHIL 440. Philosophy of Mind. 3 Credits.
At least two courses in philosophy other than PHIL 155, including PHIL 340, strongly recommended. An examination of dualism, behaviorism, the identity theory, and forms of functionalism with special focus on the problems of mental aboutness and the problems of consciousness.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

PHIL 442. Philosophical Foundations of Artificial Intelligence. 3 Credits.
This course focuses on advanced philosophical issues tied to artificial intelligence. We will discuss a number of topics concerning how to understand contemporary AI systems, their limits and advantages, as well as the risks and benefits of their application and deployment in real life situations.

Rules & Requirements
Requisites: Prerequisites, PHIL 143 and one advanced course in Philosophy (300 level or above), or one course on machine learning in computer science.
Grading Status: Letter grade.

PHIL 445. Advanced Philosophy of Language. 3 Credits.
At least two courses in philosophy other than PHIL 155, including PHIL 345, strongly recommended. A study of important contemporary contributions in philosophy of language. Topics include meaning, reference, and truth.

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.
Same as: LING 410, LING 445.

PHIL 450. Philosophy of Natural Sciences. 3 Credits.
An in-depth survey of general issues in contemporary philosophy of natural science intended for advanced philosophy students. Topics include confirmation, explanation, theory-choice, realism, reduction.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

PHIL 451. Philosophy of Physics. 3 Credits.
Topics may include the nature of space and time, the ontological status of fields and energy, or causation and locality in quantum physics.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

PHIL 452. Philosophy of Biology. 3 Credits.
The logical structure of evolutionary theory, fitness, taxonomy, the notion of a living thing, reductionism, evolutionary explanations, teleology.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

PHIL 453. Philosophy of Psychology. 3 Credits.
Topics may include reasoning, the relationship between language and thought, concepts, moral cognition, and emotions.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

PHIL 454. Philosophy, History, and the Social Sciences. 3 Credits.
The nature of historical explanation, structural and functional explanation, the weighing of historical testimony, the concept of meaning, normative judgments and predictions in the social sciences.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

PHIL 455. Symbolic Logic. 3 Credits.
Introduction for graduates and advanced undergraduates.

Rules & Requirements

IDEAs in Action Gen Ed: FC-QUANT.
Requisites: Prerequisite, PHIL 155; permission of the instructor for students lacking the prerequisite.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

PHIL 456. Advanced Symbolic Logic. 3 Credits.
Presupposes propositional and quantificational logic as a basis of further deductive development with special attention to selected topics: alternative systems, modal and deontic logic, inductive logic, the grammar of formalized languages, paradoxes, and foundations of mathematics.

Rules & Requirements

IDEAs in Action Gen Ed: FC-QUANT.
Requisites: Prerequisite, PHIL 455.
Repeat Rules: May be repeated for credit. 12 total credits. 4 total completions.
Grading Status: Letter grade.

PHIL 457. Set Theory and Logic. 3 Credits.
Natural and real numbers. Infinite cardinal and ordinal numbers. Alternative axiom systems and their consistency problems.

Rules & Requirements
Requisites: Prerequisite, PHIL 455; permission of the instructor for students lacking the prerequisite.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

PHIL 458. Formal Techniques in Philosophy. 3 Credits.
In a variety of subfields of philosophy, philosophers have found formal techniques to be useful tools for making progress on important philosophical questions. These subfields include, but are not limited to: metaphysics, epistemology, philosophy of language, philosophy of mind, ethics, and political philosophy. This course is a general introduction to some of the formal tools that have been most influential in these fields.

Rules & Requirements
Requisites: Prerequisite, For undergraduates: PHIL 155 or equivalent, or permission of the instructor.
Grading Status: Letter grade.

PHIL 459. Philosophy of Mathematics. 3 Credits.
Philosophical problems concerning logic and the foundation of mathematics.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

PHIL 460. History of Moral Philosophy. 3 Credits.
Examination of classic texts of Plato, Aristotle, Aquinas, Hobbes, Butler, Hume, Kant, and Mill. Selections may vary from year to year.

Rules & Requirements

IDEAs in Action Gen Ed: FC-VALUES.
Requisites: Prerequisite, Two courses in philosophy other than PHIL 155, including PHIL 360, strongly recommended.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

PHIL 462. Contemporary Moral Philosophy. 3 Credits.
Advanced discussion of moral issues such as fact and value, reason and morality, the nature of morality.

Rules & Requirements
Requisites: Prerequisite, two courses in philosophy, including one in value theory.
Repeat Rules: May be repeated for credit. 9 total credits. 3 total completions.
Grading Status: Letter grade.

PHIL 463. Contemporary Moral and Social Problems. 3 Credits.
Two courses in philosophy other than PHIL 155 strongly recommended. A detailed examination of one or more of the following contemporary issues: environmental ethics, animal rights, abortion, euthanasia, pornography, racism, sexism, public versus private morality.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

PHIL 464. Moral Responsibility. 3 Credits.
An intensive study of classic and recent work on the nature of moral responsibility and its relationship to blame (and praise).

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING or FC-VALUES.
Requisites: Prerequisite, one previous course in philosophy, preferably in value theory.
Grading Status: Letter grade.

PHIL 465. Justice in Health Care. 3 Credits.
One course in philosophy strongly recommended. Medical students welcome. The course will focus on the question of how scarce health care resources ought to be distributed in order to meet the demands of justice.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

PHIL 468. Risk and Society. 3 Credits.
One additional course in philosophy strongly recommended. The course examines attitudes toward risk and how they affect our preferences for different public policies in the areas of environmental protection, technology regulation, and workplace and product safety.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

PHIL 470. Political Philosophy from Hobbes to Rousseau. 3 Credits.
Two courses in philosophy other than PHIL 155, including PHIL 170 or 370, strongly recommended. Explores the foundations of justice and authority in the idea of contract or covenant, the nature of law, rights, liberty, and democracy in the work of Hobbes, Locke, Hume, Rousseau.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

PHIL 471. Topics in 19th Century Philosophy. 3 Credits.
An examination of central issues in social and political philosophy as they figure in the work of 19th Century Philosophy.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

PHIL 473. American Political Philosophy. 3 Credits.
One course in philosophy other than PHIL 155 strongly recommended. The issue of unity and diversity in America is analyzed through the writings of Jefferson, the Federalists and Anti-Federalists, Calhoun, MacKinnon, DuBois, and Rawls.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

PHIL 474. Foundations of Modern Political Philosophy. 3 Credits.
This course traces the emergence and development of central themes of modern political philosophy from the 13th through the 17th century.

Rules & Requirements
Requisites: Prerequisite, PHIL 170.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

PHIL 475. Philosophical Issues in Gender, Race, and Class. 3 Credits.
Examines in greater depth and complexity one or more of the issues addressed in PHIL 275, investigating issues of gender, race, and class within the dominant theories of philosophy.

Rules & Requirements
Requisites: Prerequisite, PHIL 275 or WGST 101.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.
Same as: WGST 475.

PHIL 476. Recent Developments in Political Philosophy. 3 Credits.
Two courses in philosophy other than PHIL 155, including PHIL 370, strongly recommended. Investigation of major contemporary contributors (Rawls, Nozick, Dworkin, Cohen, Waldron, Arrow) to philosophical debate concerning justice, equality, liberty, democracy, public reason, or rights versus community.

Rules & Requirements
Repeat Rules: May be repeated for credit. 9 total credits. 3 total completions.
Grading Status: Letter grade.

PHIL 480. Philosophy of Law. 3 Credits.
An exploration of whether and under what conditions the state has the right to control crime by punishment of past crimes and preventive detention to prevent future crimes.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

PHIL 482. Philosophy and Literature. 3 Credits.
Philosophical readings of literary texts, including novels, plays, and poems.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.
Same as: CMPL 482.

PHIL 485. Philosophy of Art. 3 Credits.
Competing theories of art and art criticism. The relationship between art and emotional expression, the formal character of art, and standards of taste.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

PHIL 491. Health Care, Science, and Philosophy. 3 Credits.
Interdisciplinary course to develop critical thinking capacities through philosophical study of the nature of scientific presuppositions and concepts, including events, causality, and determinism, with specific application to health care issues.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

PHIL 494. Existentialism and Phenomenology. 3 Credits.
A study of one or two major systematic works by Sartre, Heidegger, or Merleau-Ponty.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

PHIL 496. Advanced Directed Studies. 1-3 Credits.
Permission of the director of undergraduate studies. Advanced independent work in philosophy.

Rules & Requirements
Repeat Rules: May be repeated for credit. 9 total credits. 3 total completions.
Grading Status: Letter grade.

PHIL 562. Ethics, Responsibility, and Justice. 1 Credits.
Ethics explores obligations to act in the interest of others as well as ourselves. Justice explores the ways people should organize and govern themselves. Course addresses such questions as, What principles govern our relationships with other people? What do we owe others and ourselves? How should we treat other people?

Rules & Requirements
Repeat Rules: May be repeated for credit. 2 total credits. 2 total completions.
Grading Status: Pass/Fail.

PHIL 691H. Courses for Honors. 3 Credits.
Permission of the director of undergraduate studies. See the director of undergraduate studies of the department.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

PHIL 692H. Courses for Honors. 3 Credits.
Permission of the director of undergraduate studies. See the director of undergraduate studies of the department.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

PHIL 698. Philosophy, Politics, and Economics: Capstone Course. 3 Credits.
Permission of the department. This capstone course advances PHIL 384, focusing on such theoretical and philosophical issues as the analysis of rights or distributive justice and the institutional implications of moral forms.

Rules & Requirements

IDEAs in Action Gen Ed: FC-VALUES.
Requisites: Prerequisite, PHIL 384.
Grading Status: Letter grade.
Same as: ECON 698, POLI 698.

Graduate-Level Courses

PHIL 700. Proto-Seminar in Philosophy. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.

PHIL 705. Advanced Studies in Systematic Philosophy. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PHIL 710. Advanced Studies in Ancient Philosophy. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PHIL 715. Advanced Studies in Medieval Philosophy. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PHIL 720. Advanced Studies in Modern Philosophy. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PHIL 725. Advanced Studies in 19th-Century Philosophy. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PHIL 730. Advanced Studies in Metaphysics. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PHIL 735. Advanced Studies in Epistemology. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PHIL 740. Advanced Studies in Philosophy of Mind. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PHIL 745. Advanced Studies in Philosophy of Language. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.
Same as: LING 712.

PHIL 750. Advanced Studies in Philosophy of Science. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PHIL 755. Advanced Studies in Philosophy of Logic. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PHIL 760. Advanced Studies in Moral Theory. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PHIL 765. Advanced Studies in Value Theory. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PHIL 770. Advanced Studies in Political Philosophy. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PHIL 775. Advanced Studies in Feminism. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.
Same as: WGST 775.

PHIL 780. Advanced Studies in Philosophy of Law. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PHIL 785. Advanced Studies in Philosophy, Politics, and Economics. 3 Credits.
This course provides Philosophy graduate students with the background to teach PPE courses. It covers core ideas in Economics and Political Science, Rationality, the Market, Inequality, Causal Inference, with the aim of analyzing social problems in PPE style.

Rules & Requirements
Grading Status: Letter grade.

PHIL 790. Colloquium Series Seminar. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PHIL 800. Pre-Dissertation Seminar in Philosophy. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PHIL 805. Research Seminar in Systematic Philosophy. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PHIL 810. Research Seminar in Ancient Philosophy. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PHIL 815. Research Seminar in Medieval Philosophy. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PHIL 820. Research Seminar in Modern Philosophy. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PHIL 825. Research Seminar in 19-Century Philosophy. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PHIL 830. Research Seminar in Metaphysics. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PHIL 835. Research Seminar in Epistemology. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PHIL 840. Research Seminar in Philosophy of Mind. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PHIL 845. Research Seminar in Philosophy of Language. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PHIL 850. Research Seminar in Philosophy of Science. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PHIL 855. Research Seminar in Philosophy of Logic. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PHIL 860. Research Seminar in Moral Theory. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PHIL 865. Research Seminar in Value Theory. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PHIL 870. Research Seminar in Political Philosophy. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PHIL 880. Research Seminar in Philosophy of Law. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PHIL 901. Readings in Philosophy. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PHIL 990. Current Research Group Seminar. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PHIL 993. Master's Research and Thesis. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

PHIL 994. Doctoral Research and Dissertation. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

Contact Information

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PHYSICIAN ASSISTANT STUDIES (GRAD)

The Division of Physician Assistant Studies in the Department of Health Sciences offers a rigorous and comprehensive 100+ credit hour master of health science in physician assistant studies degree with a focus on a generalist curriculum.

The curriculum is divided into a preclinical and a clinical phase. The preclinical phase functions to lay the foundation for students in their achievement of all program-defined competencies: Medical Knowledge, Patient Care, Professionalism and Cultural Sensitivity and Humility, Interpersonal and Communication Skills, Systems-Based Practice and Self-Assessment and Ongoing Professional Development. This is done through multiple teaching and educational modalities, including lecture-based and experiential learning and ultimately prepares students to progress to the clinical phase.

The clinical phase of the curriculum enables students to build upon the knowledge acquired in the preclinical phase and develop skills to apply that knowledge in a variety of real-world healthcare environments and experiences. To achieve this, students rotate through core and elective Structured Clinical Professional Experiences (SCPEs). During these experiences and under the supervision of a qualified preceptor, students assess patients, establish diagnoses, present patient information to healthcare team members and work within the team to develop and enact a plan of care. The primary goal of the clinical phase is for the student to gain practical experience, further develop skills as a healthcare practitioner and learn the role of the physician assistant, as well as other members of the healthcare team.

Mission

The UNC Physician Assistant Program is honored to serve the mission of the UNC School of Medicine. We are dedicated to promoting high-quality, accessible, patient-centered health care for the people of North Carolina and the nation through excellence in education, scholarship and clinical service. The UNC PA Program is committed to the healthcare and workforce needs of North Carolinians and will use an interprofessional approach to prepare skilled and compassionate health care practitioners across the continuum of life.

Competencies

Graduates of the program must possess the knowledge, skills, attitudes and judgements to function in a broad variety of clinical situations and to render a wide spectrum of patient care. They must demonstrate the capacity to develop academic and emotional maturity and leadership skills to function in a medical team. These are reflected in the program's competencies, which are adapted from the AAPA and PAEA competencies:

Medical Knowledge

- MK1: Demonstrate comprehension of basic sciences as it pertains to the human body and overall health, from conception to death, including anatomy, physiology and genetics.
- MK2: Apply understanding of human physiology and the pathophysiology of commonly presenting disorders to identify signs and symptoms of these disease states across the lifespan.
- MK3: Apply clinical reasoning and critical thinking to develop both a differential diagnosis and most likely diagnosis by discerning between normal and abnormal features of commonly presenting disorders.
- MK4: Formulate and recommend an appropriate, efficient, and cost-conscious diagnostic workup.
- MK5: Formulate and recommend an appropriate pharmacologic and/ or non-pharmacologic management strategy in caring for healthy and ill patients across the lifespan.
- MK6: Formulate and recommend appropriate health maintenance, care and screening strategies for patients across the life span.

Patient Care

- PC1: Apply comprehension of human anatomy, physiology and pathophysiology to obtain complete and focused medical histories and perform comprehensive and focused physical examinations.
- PC2: Employ clinical knowledge in patient care settings to develop differential and most likely diagnoses and appropriately utilize clinical findings and/ or diagnostics to promote medical decision-making.
- PC3: Formulate and recommend patient-centered plans with consideration of each individual patient and their circumstances.
- PC4: Provide effective patient education and counseling emphasizing the promotion of personal and public health in accordance with the patient's circumstances and values.

Professionalism & Cultural Humility

- PCH1: Consistently exhibit respect in interactions with peers, faculty, staff, patients, families and members of the healthcare team.
- PCH2: Foster collaboration with team members to enhance learning and optimize patient care.
- PCH3: Display personal accountability and engage in self-reflection, recognizing limitations and embracing constructive feedback.
- PCH4: Consistently practice cultural humility with peers, faculty, staff, patients, families and healthcare team members.
- PCH5: Apply ethical principles and adhere to state and federal laws in both educational and clinical settings, adhering to professional standards in the physician assistant profession.

Interpersonal & Communication Skills

- ICS1: Effectively communicate information and ideas with peers, faculty, staff, patients, families and healthcare team members.
- ICS2: Deliver concise and accurate patient information in the form of an oral presentation.
- ICS3: Compose concise and accurate medical documentation that demonstrates clear clinical reasoning and promotes comprehension by peers.

Systems-Based Practice

- SBP1: Appreciate and navigate the influences that affect patients' access to and utilization of healthcare, including payor systems, health literacy and cultural, societal, environmental, socioeconomic and legal factors.
- SBP2: Effectively collaborate with healthcare team members within various practice environments to deliver high quality, patient-centered care.

Self-Assessment & Ongoing Professional Development

- SAPD1: Engage in practice-based and self-directed learning using peer-reviewed and evidence-based resources.

- SAPD2: Demonstrate a systematic approach to develop clinical questions, interpret novel medical literature and promote evidence-based clinical practice in both academic and healthcare settings.

Master of Health Sciences in Physician Assistant Studies (M.H.S.)

Requirements for Admission

Applicants must meet the following minimum requirements:

1. Application submitted through the Centralized Application Service for Physician Assistants (CASPA).
2. Minimum cumulative GPA of 3.0 OR a GPA of at least 3.0 for the last 60 credit hours of coursework.
3. Bachelor's degree conferred from a regionally accredited institution in the US.
4. Minimum cumulative prerequisite GPA of 3.2. Please see the program's Admissions Requirements (https://www.med.unc.edu/healthsciences/unc-pa/admissions/) for more detail regarding prerequisite coursework.
5. A minimum of 1,000 of paid, direct, hands-on patient care.
6. Three letters of recommendation with at least one letter from a practicing physician assistant.
7. Prospective students should also review the technical standards (https://www.med.unc.edu/healthsciences/unc-pa/technical-standards/) for the program prior to applying.

IMPORTANT: Not all courses are offered every year/every term. Students should check with the DGS or SSM before registering for classes.

Graduate-level Courses

PASC 701. Human Anatomy. 4 Credits.
This one semester clinical anatomy unit prepares the student for clinical practice with an understanding of functional and applied anatomy stressing the normal surface landmarks and common clinical findings. Cadaver gross dissections and prosections, anatomical models, lectures, and electronic resources are utilized in this course.

Rules & Requirements
Grading Status: Letter grade.

PASC 702. Physiology. 2 Credits.
Physiology is presented to the student to reinforce the importance of physiology and pathophysiology to the study of clinical medicine. The course is structured into units in an organ system approach, correlating the basic sciences with clinical applications.

Rules & Requirements
Grading Status: Letter grade.

PASC 703. Foundations of Medical Science. 2 Credits.
This one semester course is an introduction to the genetic and molecular mechanisms of disease; biochemistry; microbiology.

Rules & Requirements
Grading Status: Letter grade.

PASC 704. History & Physical Examination. 4 Credits.
This semester long course introduces the student to the art of acquiring a patient history and performing the physical examination. Instruction in interpersonal and communication skills resulting in effective acquiring of patient history and collaboration with a diverse population of patients, families, and other health professionals will be incorporated.

Rules & Requirements
Grading Status: Letter grade.

PASC 705. Professional Practice and Health Systems I. 1 Credits.
This two part course provides an introduction and more in depth understanding of the social, regulatory, ethical, and professional aspects of the PA profession.

Rules & Requirements
Grading Status: Letter grade.

PASC 710. Clinical Medicine I. 4 Credits.
This is the first of three didactic Clinical Medicine courses presented in the first year and will cover infectious diseases, cardiology including EKG, hematology/oncology, and pulmonology.

Rules & Requirements
Grading Status: Letter grade.

PASC 711. Pharmacology and Therapeutics I. 3 Credits.
This course is the introductory course in a three semester pharmacotherapeutics curriculum. This first section will introduce the student to the basic principles of pharmacodynamics, pharmacokinetics, drug metabolism, drug interactions, and adverse reactions.

Rules & Requirements
Grading Status: Letter grade.

PASC 713. Diagnostic Methods I. 2 Credits.
This course provides instruction in the essentials of ordering, interpreting and performing diagnostic studies used in the screening, diagnosis, management and monitoring of disease.

Rules & Requirements
Grading Status: Letter grade.

PASC 720. Clinical Medicine II. 8 Credits.
The course will concentrate on the etiology, pathophysiology, clinical presentation, diagnosis, treatment, management and prevention of disease across the human life span; organized into an organ system approach.

Rules & Requirements
Grading Status: Letter grade.

PASC 721. Pharmacology and Therapeutics II. 2 Credits.
The course will concentrate on therapeutic applications of drugs for various organ systems integrated with the clinical medicine units being taught during this semester.

Rules & Requirements
Grading Status: Letter grade.

PASC 722. Patient Assessment I. 3 Credits.
Patient Assessment I & II are designed to develop the knowledge and skills required to obtain and record the complete medical history, use the appropriate equipment, techniques, and medical terminology to document findings; develop a differential diagnosis and diagnostic work-up and suggest a treatment plan.

Rules & Requirements
Grading Status: Letter grade.

PASC 723. Diagnostic Methods II. 1 Credits.
The essentials of ordering, interpreting and performing diagnostic studies used in the screening, diagnosis, management and monitoring of disease. Topics for this course are congruent with Clinical Medicine II.

Rules & Requirements
Grading Status: Letter grade.

PASC 727. Behavioral Medicine. 2 Credits.
This course is an introduction to psychiatric disorders and behavioral medicine. Presented in lecture and seminar format the major psychiatric disorders are studied.

Rules & Requirements
Grading Status: Letter grade.

PASC 728. Medical Spanish. 1 Credits.
This course will teach students the basics of the Spanish language as it applies to the medical field, including use of Spanish in collection of a medical history and physical examination, emergency settings, evaluation of common disease states within the Latinx and Hispanic populations, and presenting a care plan. This course will enable students to apply their concurrent learning in clinical medicine to participate in communication with the Latinx patient population.

Rules & Requirements
Requisites: Prerequisite, PASC 704, PASC 710; Corequisite, PASC 722, PASC 720.
Grading Status: Letter grade.

PASC 730. Clinical Medicine III. 5 Credits.
This is the third of three didactic Clinical Medicine courses presented in the first year and will cover genito-urology, orthopedic, HEENT, pediatrics, geriatrics, and dermatology topics.

Rules & Requirements
Grading Status: Letter grade.

PASC 731. Pharmacology and Therapuetics III. 3 Credits.
This course builds on the previous two courses and concentrates on the clinical pharmacotherapeutics.

Rules & Requirements
Grading Status: Letter grade.

PASC 732. Patient Assessment II. 3 Credits.
Patient Assessment I & II are designed to develop the knowledge and skills required to obtain and record the complete medical history, use the appropriate equipment, techniques, and medical terminology to document findings; develop a differential diagnosis and diagnostic work-up and suggest a treatment plan.

Rules & Requirements
Grading Status: Letter grade.

PASC 733. Diagnostic Methods III. 2 Credits.
The essentials of ordering, interpreting and performing diagnostic studies used in the screening, diagnosis, management and monitoring of disease. Topics for this course are congruent with Clinical Medicine III.

Rules & Requirements
Grading Status: Letter grade.

PASC 734. Fundamentals of Surgery. 3 Credits.
This course is designed to orient the student to the fundamentals of surgical practice including basic clinical procedures, sterile procedure, anesthesia, suturing, and common office procedures.

Rules & Requirements
Grading Status: Letter grade.

PASC 735. Professional Practice and Health Systems II. 1 Credits.
This two-part course provides an introduction and more in-depth understanding of the social, regulatory, ethical, and professional aspects of the PA profession. In the second part of the course, students will be introduced to providing medical care to racial, ethnic, and socioeconomically diverse patients in a fluid and changing health care system.

Rules & Requirements
Grading Status: Letter grade.

PASC 736. Evidence-Based Medicine I. 2 Credits.
This one semester course is an introduction to Evidence-based Medicine (EBM), and prepares the student for EBM II which culminates in the senior year capstone project. Evidence based-medicine provides tools to assist clinicians to make accurate diagnoses and select optimal treatment for their patients.

Rules & Requirements
Grading Status: Letter grade.

PASC 800. Supervised Clinical Experience: Family Medicine. 4 Credits.
This four-week clinical course provides students with the opportunity to learn, understand, and gain supervised experience in practicing principles of ambulatory care medicine in a Family Medicine setting. Students will have exposure to the spectrum of ambulatory practice, to include care of adults and geriatrics in routine preventive medicine and care of acute and chronic disease, as well as pediatrics.

Rules & Requirements
Grading Status: Letter grade.

PASC 801. Supervised Clinical Experience: Internal Medicine. 4 Credits.
This four-week clinical course provides students with the opportunity to learn, understand, and gain supervised experience in practicing principles of inpatient medicine. This rotations focus is for the student to learn the indications for admission to the hospital and the care of hospitalized patients. Students are expected to complete a minimum of 160 clinical hours (40 hours per week) in a clinical setting and anticipated 28 hours of studying, case documentation, and other course activities/requirements.

Rules & Requirements
Grading Status: Letter grade.

PASC 802. Surgical Medicine Supervised Clinical Experience. 4 Credits.
This rotation provides experience in the management of patients with surgical

Rules & Requirements
Grading Status: Letter grade.

PASC 803. Pediatric Medicine Supervised Clinical Experience. 4 Credits.
This rotation provides the student exposure to the care of neonates, infants, children and adolescents. The student will further refine the skills of history taking and physical examination specific to the pediatric population.

Rules & Requirements
Grading Status: Letter grade.

PASC 804. OB GYN Medicine Supervised Clinical Experience. 4 Credits.
This course provides the student an opportunity to gain experience in common gynecological conditions. The student learns about screening for breast and gynecologic cancers, normal and abnormal menstrual patterns, infectious diseases, and family planning.

Rules & Requirements
Grading Status: Letter grade.

PASC 805. Behavioral Medicine Supervised Clinical Experience. 4 Credits.
The student will be exposed to and participate in the care of patients with psychiatric illnesses and psychosocial disorders. The student will develop skills counseling patients, communicating with family members of patients living with these conditions, and managing common out-patient illnesses.

Rules & Requirements
Grading Status: Letter grade.

PASC 807. Emergency Medicine Supervised Clinical Experience. 4 Credits.
This rotation provides in-depth exposure to the illnesses and injuries that necessitate emergency care across the life continuum. Students will interview, evaluate, and examine patients presenting to the Emergency Department and present patients cared for to the precepting clinician. Emergency procedures and treatment will be guided by the clinical preceptor.

Rules & Requirements
Grading Status: Letter grade.

PASC 808. Supervised Clinical Experience: Medicine Core Elective I. 4 Credits.
In addition to the above required core rotations the student is given the option of electing 2 rotations of their choice. For example subjects can include: Cardiology, ENT, ID, Trauma/Burns, Psychiatry, Orthopedics.

Rules & Requirements
Grading Status: Letter grade.

PASC 809. Supervised Clinical Experience: Medicine Core Elective II. 4 Credits.
In addition to the above required core rotations the student is given the option of electing 2 rotations of their choice. For example subjects can include: Cardiology, ENT, ID, Trauma/Burns, Psychiatry, Orthopedics.

Rules & Requirements
Grading Status: Letter grade.

PASC 810. Supervised Clinical Experience: Elective 3. 4 Credits.
This four-week clinical course provides the UNC Chapel Hill MHSPAS physician assistant student with additional opportunities to learn, understand, and gain supervised experience in practicing principles of primary and/or specialty care medicine. The focus of the primary care learning experience is to educate the UNC Chapel Hill MHSPAS physician assistant student in the diagnosis, management, and treatment of patients in ambulatory primary and/or specialty care.

Rules & Requirements
Requisites: Pre- or corequisite, PASC 800.
Grading Status: Letter grade.

PASC 811. Supervised Clinical Experience: Elective I. 2 Credits.
This two-week clinical course provides students with the opportunity to learn, understand, and gain supervised experience in an area of special interest in but was unable to experience during other rotations. Students are expected to complete a minimum of 80 clinical hours on rotation (40 hours per week) in a clinical setting. In addition, students are expected to complete at least 14 hours (1 hour per day) studying, patient encounter logging and additional course activities/requirements.

Rules & Requirements
Requisites: Pre- or corequisites, PASC 800, 801, 802, 803, 804, 805, 807, 808, 809, 810, and 812.
Grading Status: Letter grade.

PASC 812. Supervised Clinical Experience: Elective II. 2 Credits.
This two-week clinical course provides students with the opportunity to learn, understand, and gain supervised experience in an area of special interest in but was unable to experience during other rotations. Students are expected to complete a minimum of 80 clinical hours on rotation (40 hours per week) in a clinical setting. In addition, students are expected to complete at least 14 hours (1 hour per day) studying, patient encounter logging and additional course activities/requirements.

Rules & Requirements
Requisites: Pre- or corequisites, PASC 800, 801, 802, 803, 804, 805, 807, 808, 809, 810, and 811.
Grading Status: Letter grade.

PASC 820. Clinical Seminar I. 1 Credits.
This course will augment students clinical experiences by reinforcing acquisition of medical knowledge, supporting development of interpersonal communication skills, distinguishing traits that promote professional excellence, implementing improvements in practice performance by applying critically appraised medical literature, and recognizing the impact of systems-based processes on individual patient care. Topics will be presented in a sequence that prepares students to transition from student role to that of an autonomous member of a physician/physician assistant team.

Rules & Requirements
Grading Status: Letter grade.

PASC 821. Clinical Seminar II. 1 Credits.
This course is designed to augment students clinical experiences by reinforcing acquisition of medical knowledge, supporting development of interpersonal communication skills, distinguishing traits that promote professional excellence, implementing improvements in practice performance by applying critically appraised medical literature, and recognizing the impact of systems-based processes on individual patient care. Topics will be presented in a sequence that prepares students to transition from student role to that of an autonomous member of a physician/physician assistant team.

Rules & Requirements
Requisites: Prerequisite, PASC 820.
Grading Status: Letter grade.

PASC 822. Clinical Seminar III. 1 Credits.
This course is designed to augment students clinical experiences by reinforcing acquisition of medical knowledge, supporting development of interpersonal communication skills, distinguishing traits that promote professional excellence, implementing improvements in practice performance by applying critically appraised medical literature, and recognizing the impact of systems-based processes on individual patient care. Topics will be presented in a sequence that prepares students to transition from student role to that of an autonomous member of a physician/physician assistant team.

Rules & Requirements
Requisites: Pre- or corequisite, PASC 821.
Grading Status: Letter grade.

Division and Program Director

Katie Hanlon MMS, PA-C, Clinical Assistant Professor

Medical Director

Timothy Daaleman DO, MPH, Professor of Medicine

Director of Preclinical Education

Nicholas Wiley MHS, PA-C, Clinical Assistant Professor

Director of Clinical Education

Allison Phillips, MPAP, MHPE, PA-C, Clinical Assistant Professor

Faculty

Jenny Elfering, MHS, PA-C, Clinical Assistant Professor
Nicole Mihailovich, MHS, PA-C Clinical Assistant Professor

Adjunct Faculty

Kunal Jakharia, MD, Assistant Professor

Department of Physician Assistant Studies
Visit Program Website (https://www.med.unc.edu/healthsciences/unc-pa/)

Contact Us
paprogram@unc.edu

DEPARTMENT OF PHYSICS AND ASTRONOMY (GRAD)

The Department of Physics and Astronomy offers graduate work leading to the degrees of master of science and doctor of philosophy.

The active fields of research are biophysics, medical physics, condensed-matter physics, materials physics, nanotechnology, nuclear physics, neutrino physics and nuclear astrophysics, quantum field theory, theoretical particle physics, general relativity and gravitation, extragalactic and stellar astronomy, and astrophysics. Students can also work in the UNC–Chapel Hill biophysics program. The graduate courses are designed to give students a broad foundation and to introduce them to the special fields in which the research interests of the department lie.

The general regulations of The Graduate School govern the work for the degrees of master of science and doctor of philosophy. To begin a graduate program in physics or astrophysics, the student should have completed most of the requirements for the degree of bachelor of science with a major in physics at the University, or their equivalent elsewhere. The minimum prerequisite for graduate study consists of the basic undergraduate courses:

Code	Title	Hours
PHYS 118	Introductory Calculus-based Mechanics and Relativity [H, F]	4
PHYS 119	Introductory Calculus-based Electromagnetism and Quanta [H, F]	4
PHYS 128L	Modern Physics Laboratory	1
PHYS 311	Electromagnetism I	3
PHYS 401	Mechanics I	3
PHYS 412	Electromagnetism II	3
PHYS 421	Introduction to Quantum Mechanics	3
PHYS 441	Thermal Physics	3
PHYS 521	Applications of Quantum Mechanics	3
Together with the following courses:		
MATH 232	Calculus of Functions of One Variable II [H, F]	4
MATH 233	Calculus of Functions of Several Variables [H, F]	4
MATH 528	Mathematical Methods for the Physical Sciences I	3
Total Hours		**38**

H Honors version available. An honors course fulfills the same requirements as the nonhonors version of that course. Enrollment and GPA restrictions may apply.

F FY-Launch class sections may be available. A FY-Launch section fulfills the same requirements as a standard section of that course, but also fulfills the FY-SEMINAR/FY-LAUNCH First-Year Foundations requirement. Students can search for FY-Launch sections in ConnectCarolina using the FY-LAUNCH attribute.

Research Interests

Astronomy and Astrophysics

Research includes the formation, structure, and evolution of stars, our Milky Way galaxy, evolution and dynamics of galaxies, gamma-ray bursts, cosmology, numerical relativity and sources of gravitational radiation, stellar seismology and quasars, exoplanets, and interstellar medium physics. UNC–Chapel Hill has guaranteed observing time on the 4.1-meter SOAR Telescope in Chile. UNC–Chapel Hill operates a number of smaller robotic telescopes as well and maintains multiple astronomical instrumentation laboratories dedicated to adaptive optics and state-of-the-art spectroscopy.

Biological and Medical Physics

Experimental studies include manipulation and force measurement techniques with applications to DNA, molecular motors, cells, and cilia, and hydration effects in adsorption of biochemicals. There is also a strong focus on the theoretical and experimental translational research in medical imaging technologies, including radiotherapy instruments based on carbon nanotube X-ray emitters such as single-cell irradiation and in vivo micro-CT; optical coherence tomography with nanoparticle molecular imaging agents; and systems-level implementation of tomographic imaging instruments.

Condensed-Matter Physics

Experimental and theoretical studies of nanomaterials. Atomic scale studies of devices and nanoelectromechanical systems, including quantum computation and transport, actuating nanomotors and sensors, amorphous materials, semiconductors, superconductors, the optical properties of solids, charge transport in solids and fluids, epitaxial growth, magnetic materials and heterostructures.

Field Theory, Particle Physics, Cosmology, Gravitation and Relativity

Research includes gauge field theories, quantum chromodynamics, electroweak theory, grand unified theories, string theory, supersymmetry, supergravity, quantum gravity, theoretical cosmology, numerical relativity, gravitational radiation, and relativistic astrophysics.

Materials Science and Materials Physics

Experimental and theoretical research in the design, synthesis, integration, and characterization of novel solid state materials, including nanostructured materials such as quantum dots, carbon nanotubes and nanorods, quasi-crystals, and metallic glass. Applications of novel materials for solar energy, electron field emission, probes and sensors, and data storage. Applications include flat-panel displays, an X-ray system for biomedical imaging, and rechargeable batteries.

Nuclear Physics

Experimental and theoretical work includes neutrino oscillations and neutrino mass measurements, fundamental symmetries and weak interactions in supernovae. The structure and evolution of stars are investigated using nuclear probes. The origin of the elements in the universe is studied using local accelerator facilities. The nature of the nuclear force and properties of few-body systems. Polarized beams of light ions and gamma-rays and polarized 3He target. Applied nuclear physics.

Facilities and Equipment

Research in physics and astronomy is carried out in laboratories on and off the Chapel Hill campus. Within Phillips Hall and Chapman Hall there are several major research laboratories including the "nanomanipulator" (a combination of a scanning electron microscope, an atomic force microscope, and sophisticated visualization graphics); the Keck Laboratory for Atomic Imaging and Manipulation, which includes two transmission electron microscopes; and the Goodman Laboratory for Astronomical Instrumentation. Other facilities include apparatus for

nuclear magnetic resonance studies, scanning probe microscopes, and Raman and optical spectrometers. For synthesis and fabrication, major facilities include molecular beam epitaxy, microwave plasma-enhanced chemical vapor deposition, laser ablation, and photolithography and reactive ion etching. Resources for highly parallel computing are provided by UNC's Information and Technology Services as well as by national centers.

The department is a partner in the Triangle Universities Nuclear Laboratory and plays a major role in experiments using the Laboratory for Experimental Nuclear Astrophysics (LENA), Tandem Accelerator, and the High-Intensity Gamma-Ray Source at the Free Electron Laser facility. UNC–Chapel Hill has an active program in low-background physics at the KURF underground facility near Blacksburg, VA. UNC–Chapel Hill has a 0.6-meter on-campus telescope and is a major partner in the 4.1-meter SOAR Telescope in Chile. The department operates the PROMPT array of robotic telescopes in Chile and manages the SkyNet array of robotic telescopes. Numerous national laboratories, including Oak Ridge, Brookhaven, NIST, Los Alamos, and Argonne, as well as KamLAND, NRAO, NOAO, the Hubble Space Telescope, and the Chandra X-ray Observatory are also vital parts of our research efforts.

Fellowships and Assistantships

Teaching Assistantships (with stipends of $20,500 for nine months) are available to qualified graduate students. Summer employment is usually available. The duties of assistants include supervising laboratory classes in introductory physics or astronomy, supporting the supervision of advanced laboratories, teaching recitation sections, and grading assignments. Graduate School fellowships are available for well-qualified applicants to the department's graduate program. Graduate students can usually be supported in the summer by teaching or research.

Research assistantships are also offered, especially to those who have completed a year or two of graduate work. The stipend is at least $30,000 for the calendar year.

Application forms for admission, including graduate appointments, should be completed online (http://gradschool.unc.edu/admissions/).

The purpose of the graduate program is to educate professional scientists at the Ph.D. level. The training prepares students for careers on university and college faculties; in industrial research and development facilities; in government laboratories and research centers; and in a variety of other scientific and technical venues. Scientific training at this level is achieved through classroom study in the core areas of the discipline common to all subfields of physics and astronomy, as well as in specialized areas at the advanced level. With this foundation, training will continue by engaging in a program of research, in partnership with one or more faculty members, which results in original work of scientific scholarship in the form of a doctoral dissertation. This research may consist of experimental, theoretical, observational, or computational work; or it may combine elements of several or all of these. The general regulations of The Graduate School govern the work for graduate degrees in physics and astronomy. Specific requirements summarized below. Detailed information may be obtained from the department.

A candidate for a Ph.D. degree must complete the following requirements:

1. Pass the doctoral written exam in four of the following seven core courses: PHYS 701, PHYS 712, PHYS 721, PHYS 741, ASTR 711, ASTR 712, ASTR 719 , and completing a research or literature review paper.
2. Pass the teaching seminar (PHYS 510) and the introductory graduate seminar (PHYS 885).
3. Completing course work in four additional electives at a satisfactory level. Generally, only courses numbered 600 or higher count for graduate level course credit.
4. Passing the preliminary oral exam, presenting the thesis prospectus.
5. Acquiring two semesters of teaching experience as TA or equivalent.
6. Writing a Ph.D. thesis and successfully defending it during a final oral examination.

The department does not offer a terminal M.S. degree, but students are encouraged to acquire the M.S. degree (non-thesis option) as an additional milestone during their thesis work. All course work (see above) needs to be completed by the semester in which the M.S. degree is defended.

Professors

Rosa Tamara Branca, Nuclear Spin Hyperpolarization-Magnetic Resonance Imaging and Spectroscopy, Biomedical and Biomolecular Imaging
James Christopher Clemens, Observational Astronomy, Astrophysics, Astronomical Instrumentation
Louise A. Dolan, Theoretical Particle Physics, Quantum Gravity
Joaquín Emiliano Drut, Computational Quantum Many-body Physics
Jonathan H. Engel, Theoretical Nuclear Physics
Adrienne Lynn Erickcek, Theoretical Astrophysics and Cosmology
Charles R. Evans, Gravity, Relativity, Theoretical Astrophysics
Fabian Heitsch, Computational Astrophysics
Reyco Henning, Neutrino Physics, Particle Astrophysics
Christian Iliadis, Experimental Nuclear Astrophysics
Dmitri V. Khveshchenko, Theoretical Quantum Many-body Physics, Holographic Principle
Nicholas M. Law, Exoplanets, Time-domain Astronomy, Data Science, Astronomical Instrumentation
Rene Lopez, Experimental Condensed Matter Physics
Jianping Lu, Medical Imaging Physics, AI, Nanotechnology, Computational and Condensed Matter Theory
Laura Mersini-Houghton, Theoretical Cosmology
Amy Lynn Oldenburg, Biological and Medical Physics, Biophotonics
Lu-Chang Qin, Materials Science, Nanotechnology
Daniel E. Reichart, Gamma Ray Bursts, Early Universe, Interstellar Extinction, Galaxy Clusters
Frank Tsui, Experimental Condensed Matter and Materials Physics
John Franklin Wilkerson, Experimental Neutrino Physics and Fundamental Symmetries
Yue Wu, Nuclear Magnetic Resonance, Electron Spin Resonance in Solids
Otto Z. Zhou, Materials Science, Nanotechnology

Associate Professors

Akaa Daniel Ayangeakaa, Experimental Nuclear Structure Physics
Brad Barlow, Observational Astronomy
Andrew W. Mann, Observational Astronomy, Stars and Exoplanets
Amy Nicole Nicholson, Theoretical Nuclear Physics, Computational Lattice Quantum Chromodynamics

Assistant Professors

Igor Andreoni, Observational Astronomy
Gökçe Başar, Theoretical Nuclear and Particle Physics
Julieta Gruszko, Experimental Neutrino Physics

Carl Rodriguez, Computational and Theoretical Astrophysics, Stars, Black Holes, and Gravitational Waves
Wei Zhang, Experimental Condensed Matter Physics, Materials Science

Research Professor

Arthur E. Champagne, Experimental Nuclear Physics and Astrophysics

Research Associate Professor

Christina Redmon Inscoe, Medical Physics

Teaching Professors

Duane Deardorff, Physics Education Research

Teaching Associate Professors

Colin Wallace, Physics Education Research
Jennifer Weinberg-Wolf, Physics Education Research

Teaching Assistant Professors

Muxin Zhang, Physics Education Research

Adjunct Professors

Gerald N. Cecil, Observational Astrophysics
Steven Mark Christensen, Gravitation, Quantum Field Theory, Black Holes, Cosmology
Michael R. Falvo, Biological and Medical Physics
Brand Fortner, Astrophysics
Yosuke Kanai, Condensed Matter Physics, Chemical and Material Physics
Alfred Kleinhammes, Condensed Matter Physics, Materials Science
Enrique Platin, Materials Science, Nanotechnology
David Clarke Radford, Nuclear Physics
John Michael Shull, Experimental Astrophysics
Gregory Clayton Sloan, Experimental Astrophysics
Rachel Lofsky Smith, Observational Astronomy
Jie Tang, Materials Physics, Nanomaterials

Adjunct Associate Professors

David B. Hill, Biophysics
Yueh Z. Lee, Medical Physics
Thomas Osburn, Gravity, Relativity, Theoretical Astrophysics

Professors Emeriti

Charle V. Briscoe
Bruce Carney
Gerald N. Cecil
Wayne Christiansen
Thomas Clegg
Kian S. Dy
John P. Hernandez
Robert Victor Janssens
Sheila Kannappan
Hugon J. Karwowski
Laurie E. McNeil
Yee Jack Ng
Nalin Parikh
James A. Rose
William J. Thompson
Sean Washburn

ASTR

Advanced Undergraduate and Graduate-level Courses

ASTR 448. Machine Learning in Physics and Astronomy. 3 Credits.
Machine learning is one of the fastest growing and most dynamic areas of modern physics research and data application. This course gives an introduction to the core concepts, theory and tools of machine learning as required by physicists and astronomers addressing practical data analysis tasks. Topics will include, statistics, scientific data set exploration, feature engineering, neural networks, supervised and unsupervised learning. Students will learn how to select and preprocess data, design machine learning models, evaluate model performance, and relate model inputs and outputs to the underlying physics concepts. Some prior programming experience is expected.

Rules & Requirements
Requisites: Prerequisites, MATH 232 and PHYS 114 or PHYS 118; Corequisites, PHYS 331 or MATH 210.
Grading Status: Letter grade.
Same as: PHYS 448.

ASTR 501. Stellar Astrophysics. 3 Credits.
An introduction to the study of stellar structure and evolution. Topics covered include observational techniques, stellar structure and energy transport, nuclear energy sources, evolution off the main-sequence, and supernovae.

Rules & Requirements
Requisites: Prerequisites, ASTR 202 or ASTR 301, MATH 383, and PHYS 331; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

ASTR 502. Modern Research in Astrophysics. 3 Credits.
A capstone research experience introducing modern data-analysis techniques for large astronomical surveys. Students undertake guided research projects with a different theme each semester. The course focuses on real astrophysical discovery of new objects, events and phenomena.

Rules & Requirements
IDEAs in Action Gen Ed: FC-CREATE, RESEARCH.
Requisites: Prerequisite, ASTR 202.
Grading Status: Letter grade.

ASTR 503. Structure and Evolution of Galaxies. 3 Credits.
Overview of the structure and evolution of galaxies, with emphasis on learning and applying modern research methods such as scientific literature review and computational astrostatistics. Includes galaxy morphology and dynamics, star formation, active galactic nuclei, galaxy interactions, large-scale clustering, environment-dependent physical processes, and the evolution of the galaxy population over cosmic time.

Rules & Requirements
Requisites: Prerequisites, ASTR 202 or ASTR 301, MATH 383, and PHYS 331.
Grading Status: Letter grade.

ASTR 504. Cosmology. 3 Credits.
An introduction to modern cosmology: the study of the contents and evolution of the universe. Covers expanding spacetime, the thermal history of the early universe, including nucleosynthesis and the cosmic microwave background, the inflationary model for the origins of cosmic structure, and the growth of that structure through time.

Rules & Requirements
Requisites: Prerequisites, ASTR 202 or ASTR 301, and PHYS 401; pre- or corequisite, PHYS 421.
Grading Status: Letter grade.

ASTR 505. Physics of Interstellar Gas. 3 Credits.
Surveys the physical processes governing the interstellar medium (ISM), which takes up the "refuse" of old stars while providing fuel for young stars forming. Covers the processes regulating the galactic gas budget and the corresponding observational diagnostics. Topics: radiative transfer, line formation mechanisms, continuum radiation, gas dynamics, star formation.

Rules & Requirements
Requisites: Prerequisites, ASTR 202 or ASTR 301, and PHYS 331.
Grading Status: Letter grade.

ASTR 511. Atomic and Radiative Processes in Astrophysics. 3 Credits.
This course covers key topics in electromagnetism, radiative transport, and thermal and statistical mechanics in the context of astrophysics, such as stellar and planetary interiors and atmospheres, stellar evolution (including star formation and death), stellar populations, and the early universe.

Rules & Requirements
Requisites: Prerequisite, ASTR 202; Pre- or corequisite, PHYS 412.
Grading Status: Letter grade.

ASTR 512. Astrophysical Dynamics. 3 Credits.
This course provides a broad overview of astrophysical principles underlying stellar and planetary dynamics; N-body dynamics of star clusters, galaxies, and dark matter; fluid dynamics of astrophysical plasmas; and dynamics of the Universe and spacetime.

Rules & Requirements
Requisites: Prerequisites, ASTR 202 and PHYS 201 or PHYS 401.
Grading Status: Letter grade.

ASTR 519. Observational Astronomy. 4 Credits.
An introduction to modern techniques in observational astronomy with an emphasis on optical and near-infrared wavelengths. Topics covered include practical python for astronomy, telescopes and CCDs, spectroscopy, astrostatistics, and mining large astronomical surveys. Three lecture and three laboratory hours a week.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Requisites: Prerequisite, ASTR 102 or 202; Pre- or corequisite, PHYS 331; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

Graduate-level Courses

ASTR 701. Stellar Interiors, Evolution, and Populations. 3 Credits.
Stellar structure and evolution, including equations of stellar structure, stellar models, star and planet formation, fusion and nucleosynthesis, stellar evolution, stellar remnants, and the comparison of theory to observations.

Rules & Requirements
Grading Status: Letter grade.

ASTR 702. High Energy Astrophysics. 3 Credits.
White dwarfs and neutron stars: physical properties and observational manifestations. Extragalactic radio sources, relativistic jets, and supermassive black holes. Particle acceleration and radiative processes in hot plasmas. Accretion phenomena. X-ray and gamma-ray astrophysics.

Rules & Requirements
Requisites: Prerequisites, PHYS 711 and 721.
Grading Status: Letter grade.

ASTR 703. Structure and Evolution of Galaxies. 3 Credits.
Overview of the structure and evolution of galaxies, with emphasis on learning and applying modern research methods such as scientific literature review and computational astrostatistics. Includes galaxy morphology and dynamics, star formation, active galactic nuclei, galaxy interactions, large-scale clustering, environment-dependent physical processes, and the evolution of the galaxy population over cosmic time.

Rules & Requirements
Grading Status: Letter grade.

ASTR 704. Cosmology. 3 Credits.
General relativity and cosmological world models; thermal history of the early universe, nucleosynthesis, and the cosmic microwave background; growth of structure through cosmic time.

Rules & Requirements
Requisites: Co-requisite, PHYS 701.
Grading Status: Letter grade.

ASTR 705. Physics of Interstellar Gas. 3 Credits.
Surveys the physical processes governing the interstellar medium (ISM), which takes up the "refuse" of old stars while providing fuel for young stars forming. Covers the processes regulating the galactic gas budget and the corresponding observational diagnostics. Topics: radiative transfer, line formation mechanisms, continuum radiation, gas dynamics, star formation.

Rules & Requirements
Requisites: Prerequisites, PHYS 711 and 721.
Grading Status: Letter grade.

ASTR 711. Atomic and Radiative Processes in Astrophysics. 3 Credits.
This course covers key topics in electromagnetism, radiative transport, and thermal and statistical mechanics in the context of astrophysics, such as stellar and planetary interiors and atmospheres, stellar evolution (including star formation and death), stellar populations, and the early universe.

Rules & Requirements
Grading Status: Letter grade.

ASTR 712. Astrophysical Dynamics. 3 Credits.
This course provides a broad overview of astrophysical principles underlying stellar and planetary dynamics; N-body dynamics of star clusters, galaxies, and dark matter; fluid dynamics of astrophysical plasmas; and dynamics of the Universe and spacetime.

Rules & Requirements
Requisites: Prerequisite, PHYS 701.
Grading Status: Letter grade.

ASTR 719. Astronomical Data. 4 Credits.
Required preparation, physics-based cosmology course or permission of the instructor. A course designed to familiarize the student with observational techniques in optical and radio astronomy, including application of photography, spectroscopy, photometry, and radio methods. Three lecture and three laboratory hours a week.

Rules & Requirements
Grading Status: Letter grade.

ASTR 891. Seminar in Astrophysics. 1-21 Credits.
Recent observational and theoretical developments in stellar, galactic, and extragalactic astrophysics.

Rules & Requirements
Grading Status: Letter grade.

PHYS

Advanced Undergraduate and Graduate-level Courses

PHYS 401. Mechanics I. 3 Credits.
Particle kinematics, central forces, planetary motions. Systems of particles, conservation laws, nonlinearity. Statics, motion of rigid bodies. Lagrange's and Hamilton's equations. Euler's equations. Vibrations and waves.

Rules & Requirements
Requisites: Pre- or corequisites, MATH 383 and PHYS 281L and 331; permission of the instructor for students lacking the requisites.
Grading Status: Letter grade.

PHYS 405. Biological Physics. 3 Credits.
How diffusion, entropy, electrostatics, and hydrophobicity generate order and force in biology. Topics include DNA manipulation, intracellular transport, cell division, molecular motors, single molecule biophysics techniques, nerve impulses, neuroscience.

Rules & Requirements
Requisites: Prerequisites, PHYS 116 and 117, or PHYS 118 and 119.
Grading Status: Letter grade.
Same as: BIOL 431, BMME 435.

PHYS 410. Teaching and Learning Physics. 4 Credits.
Learning how to teach physics using current research-based methods. Includes extensive fieldwork in high school environments.

Rules & Requirements
IDEAs in Action Gen Ed: HI-LEARNTA.
Requisites: Prerequisite, PHYS 117 or 119; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

PHYS 412. Electromagnetism II. 3 Credits.
Electrodynamics: Maxwell's equations and their application to electromagnetic waves, radiation, and relativity.

Rules & Requirements
Requisites: Prerequisites, PHYS 281L, 311 and 332; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

PHYS 421. Introduction to Quantum Mechanics. 3 Credits.
Origins of quantum theory. Uncertainty principle. Schrödinger equation for simple systems including the hydrogen atom. Spin. Identical particles. Previously offered as PHYS 321.

Rules & Requirements
Requisites: Prerequisites, MATH 383, either MATH 347 or PHYS 331, and one of PHYS 117, or 119; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

PHYS 422. Physics of the Earth's Interior. 3 Credits.
Origin of the solar system: the nebular hypothesis. Evolution of the earth and its accretionary history. Earthquakes: plate tectonics and the interior of the earth. The earth's magnetic field. Mantle convection.

Rules & Requirements
Requisites: Prerequisites, MATH 383, and either PHYS 201 and 211 or 311 and 401.
Grading Status: Letter grade.
Same as: EMES 422.

PHYS 441. Thermal Physics. 3 Credits.
Equilibrium statistical mechanics; the laws of thermodynamics, internal energy, enthalpy, entropy, thermodynamic potentials, Maxwell's relations.

Rules & Requirements
Requisites: Prerequisites, MATH 233, and PHYS 117 or 119; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.
Same as: BMME 441.

PHYS 447. Quantum Computing. 3 Credits.
Recommended preparation, some knowledge of basic linear algebra. An introduction to quantum computing. Basic math and quantum mechanics necessary to understand the operation of quantum bits. Quantum gates, circuits, and algorithms, including Shor's algorithm for factoring and Grover's search algorithm. Entanglement and error correction. Quantum encryption, annealing, and simulation. Brief discussion of technologies.

Rules & Requirements
Requisites: Prerequisites, MATH 232, and PHYS 116 or 118.
Grading Status: Letter grade.
Same as: COMP 447.

PHYS 448. Machine Learning in Physics and Astronomy. 3 Credits.
Machine learning is one of the fastest growing and most dynamic areas of modern physics research and data application. This course gives an introduction to the core concepts, theory and tools of machine learning as required by physicists and astronomers addressing practical data analysis tasks. Topics will include, statistics, scientific data set exploration, feature engineering, neural networks, supervised and unsupervised learning. Students will learn how to select and preprocess data, design machine learning models, evaluate model performance, and relate model inputs and outputs to the underlying physics concepts. Some prior programming experience is expected.

Rules & Requirements
Requisites: Prerequisites, MATH 232 and PHYS 114 or PHYS 118; Corequisites, PHYS 331 or MATH 210.
Grading Status: Letter grade.
Same as: ASTR 448.

PHYS 451. Electronics I. 4 Credits.
DC and AC circuit analysis and design, construction, test, and measurements. Semiconductors physics and semiconductor devices (diodes and transistors). Signal conditioning and introduction to digital electronics and automated data acquisition and analysis. Previously offered as PHYS 351.

Rules & Requirements
Requisites: Prerequisite, PHYS 115 or 119; Pre- or corequisites, MATH 383 and PHYS 331; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

PHYS 452. Electronics II. 4 Credits.
Introduction to digital circuits: gates, flip-flops, and counters. Computers and device interconnections, converters and data acquisition. Signal analysis and digital filters. Graphical (LabVIEW) programming and computer interfacing. Individual projects and practical applications. Course previously offered as PHYS 352.

Rules & Requirements
Requisites: Prerequisites, PHYS 451 or BMME 207 and BMME 365; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

PHYS 461. Introduction to Medical Physics. 3 Credits.
This class will introduce how physics principles and techniques have been applied to medical imaging and radiation therapy. Topics will include ionizing radiation and radiation safety, x-ray and computed tomography, ultrasound, magnetic resonance imaging, positron emission tomography, and radiation therapy. Topics such as the career path to become a medical physicist will also be discussed. The class will have lectures given by the instructor and guest lectures by experts and practitioners in this field.

Rules & Requirements
Requisites: Prerequisites, PHYS 119 or PHYS 115 and MATH 233.
Grading Status: Letter grade.

PHYS 471. Physics of Solid State Electronic Devices. 3 Credits.
Properties of crystal lattices, electrons in energy bands, behavior of majority and minority charge carriers, PN junctions related to the structure and function of semiconductor diodes, transistors, display devices.

Rules & Requirements
Requisites: Prerequisite, PHYS 117 or 119; pre- or corequisite, PHYS 211 or 311.
Grading Status: Letter grade.

PHYS 472. Chemistry and Physics of Electronic Materials Processing. 3 Credits.
A survey of materials processing and characterization used in fabricating microelectronic devices. Crystal growth, thin film deposition and etching, and microlithography. Previously offered as APPL 472. Permission of the instructor.

Rules & Requirements
Requisites: Prerequisite, CHEM 482 or PHYS 117 or 119.
Grading Status: Letter grade.
Same as: CHEM 472.

PHYS 481L. Advanced Laboratory I. 2 Credits.
Selected physical problems to be addressed with the use of materials development, device fabrication and experiment design for evaluation.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH, COMMBEYOND.
Requisites: Prerequisites, PHYS 281L and PHYS 451; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

PHYS 491L. Materials Laboratory I. 2 Credits.
Structure determination and measurement of the optical, electrical, and magnetic properties of solids. Previously offered as APPL 491L.

Rules & Requirements
Requisites: Prerequisites, APPL 470 and PHYS 351.
Grading Status: Letter grade.

PHYS 492L. Materials Laboratory II. 2 Credits.
Continuation of PHYS 491L with emphasis on low- and high-temperature behavior, the physical and chemical behavior of lattice imperfections and amorphous materials, and the nature of radiation damage. Previously offered as APPL 492L.

Rules & Requirements
Requisites: Prerequisite, APPL 491L or PHYS 491L.
Grading Status: Letter grade.

PHYS 510. Seminar for Physics and Astronomy Teaching Assistants. 1 Credits.
A seminar on how students learn and understand physics and astronomy and how to teach using current research-based methods.

Rules & Requirements
IDEAs in Action Gen Ed: HI-LEARNTA.
Grading Status: Letter grade.

PHYS 510L. Practicum for Physics and Astronomy Undergraduate Teaching and Learning Assistants. 1 Credits.
This course is designed to accompany, or subsequently follow, the Seminar for New Physics and Astronomy Teaching and Learning Assistants (PHYS 510) and is for undergraduates serving as Undergraduate Teaching Assistants (UTAs) for the Physics and Astronomy Department. UTAs who receive course credit cannot also be paid.

Rules & Requirements

IDEAs in Action Gen Ed: HI-LEARNTA.
Requisites: Pre- or corequisite, PHYS 510.
Repeat Rules: May be repeated for credit. 6 total credits. 6 total completions.
Grading Status: Pass/Fail.

PHYS 515. Optics. 3 Credits.
Broad coverage including ray, wave, Gaussian, and Fourier optics. Interference, diffraction, polarization, and coherence. Optical properties of materials, absorption, scattering. Fiber optics, lasers, semiconductors, imaging, and special topics. Previously offered as PHYS 415.

Rules & Requirements
Requisites: Prerequisite, PHYS 211 or PHYS 412; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

PHYS 521. Applications of Quantum Mechanics. 3 Credits.
Emphasizes atomic physics but includes topics from nuclear, solid state, and particle physics, such as energy levels, the periodic system, selection rules, and fundamentals of spectroscopy.

Rules & Requirements
Requisites: Prerequisite, PHYS 421.
Grading Status: Letter grade.

PHYS 529. Introduction to Magnetic Resonance. 3 Credits.
This course will provide a broad coverage of important physics principles behind nuclear magnetic resonance (NMR) spectroscopy, especially the applications of quantum mechanics. Theoretical approaches and tools for grasping the design principles of various important NMR spectroscopic techniques will be discussed. It will show, for instance, how to use NMR spectroscopy to determine molecular structures and dynamics, and how to obtain images and functional information using magnetic resonance imaging (MRI).

Rules & Requirements
Requisites: Prerequisite, PHYS 421 or CHEM 486; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

PHYS 543. Nuclear Physics. 3 Credits.
Structure of nucleons and nuclei, nuclear models, forces and interactions, nuclear reactions.

Rules & Requirements
Requisites: Prerequisite, PHYS 421; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

PHYS 545. Introductory Elementary Particle Physics. 3 Credits.
Relativistic kinematics, symmetries and conservation laws, elementary particles and bound states, gauge theories, quantum electrodynamics, chromodynamics, electroweak unification, standard model and beyond.

Rules & Requirements
Requisites: Prerequisites, PHYS 412 and 421.
Grading Status: Letter grade.

PHYS 573. Introductory Solid State Physics. 3 Credits.
Crystal symmetry, types of crystalline solids; electron and mechanical waves in crystals, electrical and magnetic properties of solids, semiconductors; low temperature phenomena; imperfections in nearly perfect crystals. Previously offered as APPL 573.

Rules & Requirements
Requisites: Prerequisite, PHYS 421; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

PHYS 586. Introduction to Biomedical Imaging Science. 3 Credits.
This course offers an introduction to the most common biomedical imaging modalities, including Magnetic Resonance Imaging (MRI), Computed-Tomography (CT), Positron Emission Tomography (PET), Single-Photon Emission Computed Tomography (SPECT), Ultrasound, and Optical Imaging. Lectures include discussions of imaging hardware, and relevant physics, as well as pre-clinical and clinical applications.

Rules & Requirements
Requisites: Prerequisite, PHYS 119.
Grading Status: Letter grade.

PHYS 594. Nonlinear Dynamics. 3 Credits.
Interdisciplinary introduction to nonlinear dynamics and chaos. Fixed points, bifurcations, strange attractors, with applications to physics, biology, chemistry, finance.

Rules & Requirements
Requisites: Prerequisite, MATH 383; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Same as: MATH 594.

PHYS 631. Mathematical Methods of Theoretical Physics. 3 Credits.
Linear vector spaces and matrices, curvilinear coordinates, functions of complex variables, ordinary and partial differential equations, Fourier series, integral transforms, special functions, differential forms.

Rules & Requirements
Requisites: Prerequisites, PHYS 281L and 332.
Grading Status: Letter grade.

PHYS 632. Advanced Research Analytics. 3 Credits.
Required preparation, ability to program in a high-level computer language. Permission of the instructor for students lacking the required preparation. Methods required for the analysis, interpretation, and evaluation of physics measurements and theory. Error analysis, statistical tests, model fitting, parameter estimation, Monte Carlo methods, Bayesian inference, noise mitigation, experimental design, big data, selected numerical techniques including differential equations and Fourier techniques.

Rules & Requirements
Grading Status: Letter grade.

PHYS 633. Scientific Programming. 3 Credits.
Required preparation, elementary Fortran, C, or Pascal programming. Structured programming in Fortran or Pascal; use of secondary storage and program packages; numerical methods for advanced problems, error propagation and computational efficiency; symbolic mathematics by computer.

Rules & Requirements
Requisites: Prerequisite, MATH 528 or 529, or PHYS 631 or 632.
Grading Status: Letter grade.

PHYS 660. Fluid Dynamics. 3 Credits.
The physical properties of fluids, kinematics, governing equations, viscous incompressible flow, vorticity dynamics, boundary layers, irrotational incompressible flow. Course previously offered as GEOL 560/MASC 560.

Rules & Requirements
Requisites: Prerequisite, PHYS 401; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Same as: EMES 560, ENVR 452.

PHYS 671L. Independent Laboratory I. 3 Credits.
Six laboratory hours a week.

Rules & Requirements
Requisites: Prerequisites, PHYS 401 and 412; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

PHYS 672L. Independent Laboratory II. 3 Credits.
Six laboratory hours a week.

Rules & Requirements
Requisites: Prerequisites, PHYS 401 and 412; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

PHYS 691H. Senior Honor Thesis Research I. 3 Credits.
Permission of the instructor. Readings in physics and directed research for a senior honor thesis project. Required of all candidates for graduation with honors in physics.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

PHYS 692H. Senior Honor Thesis Research II. 3 Credits.
Readings in physics and directed research for a senior honor thesis project. Required of all candidates for graduation with honors in physics.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Requisites: Prerequisite, PHYS 691H.
Grading Status: Letter grade.

Graduate-level Courses

PHYS 701. Classical Dynamics. 3 Credits.
Variational principles, Lagrangian and Hamiltonian mechanics. Symmetries and conservation laws. Two-body problems, perturbations, and small oscillations, rigid-body motion. Relation of classical to quantum mechanics.

Rules & Requirements
Requisites: Prerequisite, advanced undergraduate mechanics.
Grading Status: Letter grade.

PHYS 711. Electromagnetic Theory I. 3 Credits.
Electrostatics, magnetostatics, time-varying fields, Maxwell's equations.

Rules & Requirements
Requisites: Prerequisites, PHYS 631 and 632.
Grading Status: Letter grade.

PHYS 712. Electromagnetic Theory. 3 Credits.
Maxwell's equations, time-varying fields, and conservation laws. Plane EM waves, polarization, propagation, dispersive media. Wave guides and resonant cavities. Radiation from slow-moving charges. Special theory of relativity. Radiation from relativistic charges. Interaction between radiation and matter.

Rules & Requirements
Grading Status: Letter grade.

PHYS 721. Quantum Mechanics. 3 Credits.
Review of nonrelativistic quantum mechanics. Spin, angular momentum, perturbation theory, scattering, identical particles, Hartree-Fock method, Dirac equation, radiation theory.

Rules & Requirements
Requisites: Prerequisite, PHYS 421.
Grading Status: Letter grade.

PHYS 722. Quantum Mechanics. 3 Credits.
Review of nonrelativistic quantum mechanics. Spin, angular momentum, perturbation theory, scattering, identical particles, Hartree-Fock method, Dirac equation, radiation theory.

Rules & Requirements
Requisites: Prerequisite, PHYS 421.
Grading Status: Letter grade.

PHYS 741. Statistical Mechanics. 3 Credits.
Classical and quantal statistical mechanics, ensembles, partition functions, ideal Fermi and Bose gases.

Rules & Requirements
Requisites: Prerequisites, PHYS 701 and 721.
Grading Status: Letter grade.

PHYS 771L. Advanced Spectroscopic Techniques. 3 Credits.
Advanced spectroscopic techniques, including Rutherford backscattering-channeling, perturbed angular correlation, Raman scattering, electron paramagnetic resonance, nuclear magnetic resonance, optical absorption, and Hall effect. Two hours of lecture and three hours of laboratory a week.

Rules & Requirements
Requisites: Prerequisite, PHYS 401 or 412; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

PHYS 772L. Advanced Spectroscopic Techniques. 3 Credits.
Advanced spectroscopic techniques, including Rutherford backscattering-channeling, perturbed angular correlation, Raman scattering, electron paramagnetic resonance, nuclear magnetic resonance, optical absorption and Hall effect. One hour of lecture and five hours of laboratory a week.

Rules & Requirements
Requisites: Prerequisite, PHYS 401 or 412; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

PHYS 780. Advanced Materials Science. 3 Credits.
This course covers the physical fundamentals of material science with an in-depth discussion of structure formation in soft and hard materials and how structure determines material mechanical, electrical, thermal, and optical properties. Topics include amorphous and crystal structures, defects, dislocation theory, thermodynamics and phase diagrams, diffusion, interfaces and microstructures, solidification, and theory of phase transformation. Special emphasis will be on the structure-property relationships of (bio)polymers, (nano)composites, and their structure property relationships.

Rules & Requirements
Grading Status: Letter grade.
Same as: MTSC 780, BMME 780, CHEM 780.

PHYS 821. Advanced Quantum Mechanics. 3 Credits.
Advanced angular momentum, atomic and molecular theory, many-body theory, quantum field theory.

Rules & Requirements
Requisites: Prerequisite, PHYS 722.
Grading Status: Letter grade.

PHYS 822. Field Theory. 3 Credits.
Quantum field theory, path integrals, gauge invariance, renormalization group, Higgs mechanism, electroweak theory, quantum chromodynamics, Standard Model, unified field theories.

Rules & Requirements
Requisites: Prerequisite, PHYS 722.
Grading Status: Letter grade.

PHYS 823. Field Theory. 3 Credits.
Quantum field theory, path integrals, gauge invariance, renormalization group, Higgs mechanism, electroweak theory, quantum chromodynamics, Standard Model, unified field theories.

Rules & Requirements
Requisites: Prerequisite, PHYS 722.
Grading Status: Letter grade.

PHYS 824. Group Theory and its Applications. 3 Credits.
Required preparation, knowledge of matrices, mechanics, and quantum mechanics. Discrete and continuous groups. Representation theory. Application to atomic, molecular, solid state, nuclear, and particle physics.

Rules & Requirements
Grading Status: Letter grade.

PHYS 829. Principles of Magnetic Resonance. 3 Credits.
Rules & Requirements
Requisites: Prerequisite, CHEM 781 or PHYS 721; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

PHYS 831. Differential Geometry in Modern Physics. 3 Credits.
Applications to electrodynamics, general relativity, and nonabelian gauge theories of methods of differential geometry, including tensors, spinors, differential forms, connections and curvature, covariant exterior derivatives, and Lie derivatives.

Rules & Requirements
Requisites: Prerequisites, PHYS 701, 711, and 712.
Grading Status: Letter grade.

PHYS 832. General Theory of Relativity. 3 Credits.
Differential geometry of space-time. Tensor fields and forms. Curvature, geodesics. Einstein's gravitational field equations. Tests of Einstein's theory. Applications to astrophysics and cosmology.

Rules & Requirements
Requisites: Prerequisite, PHYS 831; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

PHYS 861. Nuclear Physics. 3 Credits.
Nuclear reactions, scattering, nuclear structure, nuclear astrophysics.

Rules & Requirements
Requisites: Prerequisites, PHYS 543 and 721.
Grading Status: Letter grade.

PHYS 862. Nuclear Physics. 3 Credits.
Overview of Nuclear Astrophysics. Main focus is on energy generation and element synthesis via nuclear reactions in astrophysical phenomena. Specific topics covered are: nuclear reactions, thermonuclear reaction rates, reaction networks, Bayesian models, stellar evolution, nuclear burning of hydrogen, helium, carbon, etc., supernovae and novae, s- and r-process, big bang nucleosynthesis, and isotopic anomalies in primitive meteorites.

Rules & Requirements
Requisites: Prerequisite, PHYS 543.
Grading Status: Letter grade.

PHYS 871. Solid State Physics. 3 Credits.
Topics considered include those of PHYS 573, but at a more advanced level, and in addition a detailed discussion of the interaction of waves (electromagnetic, elastic, and electron waves) with periodic structures, e.g., X-ray diffraction, phonons, band theory of metals and semiconductors.

Rules & Requirements
Requisites: Prerequisite, PHYS 421; equivalent experience for students lacking the prerequisite.
Grading Status: Letter grade.
Same as: MTSC 871.

PHYS 872. Solid State Physics II. 3 Credits.
Topics considered include quantum and thermal fluctuations, and thermodynamics of phase transitions in a broad variety of condensed matter systems, their kinetic theory and hydrodynamics, novel materials (two-dimensional electron gas, graphene, topological insulators and superconductors, Dirac/Weyl/nodal line semimetals), condensed matter applications of modern field-theoretical methods (path integral, renormalization group, holography).

Rules & Requirements
Requisites: Prerequisite, PHYS 871.
Grading Status: Letter grade.
Same as: MTSC 872.

PHYS 873. Theory of the Solid State. 3 Credits.
Calculation of one-electron energy band structure. Electron-hole correlation effect and excitons. Theory of spin waves. Many-body techniques in solid state problems including theory of superconductivity.

Rules & Requirements
Requisites: Prerequisite, PHYS 722.
Grading Status: Letter grade.

PHYS 883. Current Advances in Physics. 3 Credits.
Permission of the instructor. In recent years, elementary particle physics, amorphous solids, neutrinos, and electron microscopy have been among the topics discussed.

Rules & Requirements
Grading Status: Letter grade.

PHYS 885. Introductory Graduate Seminar in Physics and Astronomy. 1 Credits.
Introduction to skills needed for success in graduate courses and research, including practice using general-purpose mathematical/computational tools, assessment of the research landscape and research project design, preparing a proposal, and participating in peer review. Professional development topics such as ethics and etiquette, time management, and career planning are also covered.

Rules & Requirements
Grading Status: Letter grade.

PHYS 893. Seminar in Solid State Physics. 1-21 Credits.
Research topics in condensed-matter physics, with emphasis on current experimental and theoretical studies.

Rules & Requirements
Grading Status: Letter grade.

PHYS 895. Seminar in Nuclear Physics. 1-21 Credits.
Current research topics in low-energy nuclear physics, especially as related to the interests of the Triangle Universities Nuclear Laboratory.

Rules & Requirements
Grading Status: Letter grade.

PHYS 896. Seminar in Particle Physics. 1-21 Credits.
Symmetries, gauge theories, asymptotic freedom, unified theories of weak and electromagnetic interactions, and recent developments in field theory.

Rules & Requirements
Grading Status: Letter grade.

PHYS 897. Seminar in Theoretical Physics. 1-21 Credits.
Topics from current theoretical research including, but not restricted to, field theory, particle physics, gravitation, and relativity.

Rules & Requirements
Grading Status: Letter grade.

PHYS 899. Seminar in Professional Practice. 1-21 Credits.
Required preparation, Ph.D. written exam passed. The role and responsibilities of a physicist in the industrial or corporate environment and as a consultant.

Rules & Requirements
Grading Status: Letter grade.

PHYS 901. Research. 1-21 Credits.
10 or more laboratory or computation hours a week.

Rules & Requirements
Grading Status: Letter grade.

PHYS 992. Master's (Non-Thesis). 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

PHYS 993. Master's Research and Thesis. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

PHYS 994. Doctoral Research and Dissertation. 3 Credits.
Fall or spring. Staff.

Rules & Requirements
Repeat Rules: May be repeated for credit.

**The PHYS 821 and PHYS 896 sequence alternates with PHYS 822 and PHYS 823.*

Contact Information

Department of Physics and Astronomy
Visit Program Website (http://www.physics.unc.edu)

Chair
Frank Tsui
ftsui@physics.unc.edu

Academic Affairs Coordinator
Hannah Johnson
hjohnso@unc.edu

DEPARTMENT OF POLITICAL SCIENCE (GRAD)

The political science graduate program is small and very selective. Each year about 12 students enroll to pursue the doctor of philosophy in political science. However, the department also offers a master of arts in political science through the TransAtlantic Masters (TAM) (http://tam.unc.edu) program.

Admission

The general prerequisite for admission to graduate study is a bachelor of arts degree or equivalent. A student is not required to have an undergraduate major in political science but will normally be expected to have had at least nine semester hours of coursework in political science.

The Graduate Record Examination (GRE) is required. Applicants are encouraged to have their applications completed by December 1 and no later than the posted deadline. Applicants are also required to submit a writing sample, a statement of purpose, and 3 letters of recommendation. Unless a waiver is approved by the Graduate School, international applicants are required to submit a Test of English as a Foreign Language (TOEFL) or International English Language Testing System (IELTS) score.

The Center for European Studies

The Center for European Studies (CES), a Jean Monnet Center of Excellence and a U.S. Department of Education Title VI National Resource Center, advances understanding of the social, political, and economic events that shape contemporary Europe. The overarching mandate of the center is to enhance undergraduate and graduate instruction in contemporary European studies, to promote scholarship and training for students and faculty from all disciplines and professional schools, and to stimulate institutional and public awareness of Europe's economic, cultural, and political importance on campus, in North Carolina, and across the nation. CES has close ties to the TransAtlantic Masters program, which offers an M.A. in political science and includes study at UNC and at one or more partner universities in Europe. For more information on TAM please visit the dedicated website (http://tam.unc.edu). CES furthermore brings many European experts to campus, holds conferences and lecture series on events surrounding contemporary Europe, and offers Foreign Language Area Studies Fellowships to graduate students to support intensive language training.

Center for Slavic, Eurasian, and East European Studies

The Center for Slavic, Eurasian, and East European Studies (CSEEES) is an interdisciplinary center run jointly with a sister center at Duke University. In addition to offering an undergraduate major in Russian and East European studies, the center actively promotes graduate education and research in this area of the world.

As a U.S. Department of Education Title VI Center, CSEEES awards Foreign Language and Area Studies (FLAS) fellowships to a few graduate students each academic year and summer to help them acquire the language skills and area expertise necessary for advanced study and field research in this part of the world.

The Louis Harris Data Center

The national polling company Harris Interactive (formerly Louis Harris & Associates) has been surveying Americans' opinions on issues of national importance since the late 1950s. Harris surveys cover many topics, including national morale, the arts, energy policy, women's roles, political candidates, violence, health, and housing. The breadth and scope of the Harris surveys make them a rich source for secondary analysis by social scientists.

In 1965 Louis Harris agreed to make his data available for secondary analysis by researchers. Harris and the University of North Carolina jointly agreed to establish at Chapel Hill the Louis Harris Data Center as the national archive for all Harris data. Since 1965 more than 200 national, state, and community studies conducted by Harris Interactive have been deposited at the Harris Data Center for use by researchers at the University and elsewhere.

Programs

The focus of our graduate program is to train students for professional careers in political science, usually in academic institutions but also (and increasingly) in government agencies and non-governmental organizations. Our program emphasizes the acquisition of substantive knowledge, methodological skills, and communication tools that will allow the student to conduct cutting-edge research and to teach effectively.

We aim to train political scientists for competence in the discipline as a whole, as well as with expertise in specific subfields and topics. To this end, we offer our students small graduate classes on a wide array of substantive and methodological topics. Our graduate students also receive a great deal of individual attention from faculty members, with many opportunities for collaboration and co-authorship. Our students also gain substantial experience in teaching, both through teaching assistantships and the opportunity to teach one's own course. This experience, coupled with the research training we offer, is essential for success in careers in university-level teaching and scholarly research. Ph.D. candidates who elect to work in nonacademic settings, including think tanks and government agencies, also find that our program's combination of substantive training and methodological competency is invaluable.

We do not offer a terminal Masters degree. Students accepted to our PhD program spend their first two years completing M.A. requirements and immediately continue to the doctoral requirements.

At the M.A. level, the student is required, in addition to passing the course programs successfully, to write a thesis and to be examined orally on the major field of interest and in defense of the thesis. Students who have an acceptable MA thesis from a previous program may submit an MA bypass paper upon approval from committee members and the Director of Graduate Studies.

At the doctoral level, preliminary examinations are both written and oral, in that order. Written examinations are given annually in September. The final part of the examination is an oral defense of the dissertation proposal. Successful completion of these examinations permits a student to become a doctoral candidate. Following completion of the dissertation, a final oral examination will be held, which is primarily a defense of the dissertation but may include such excursions into underlying theory and related fields as are germane to the dissertation.

Field and Course Requirements

The political science curriculum is designed to ensure that graduate students develop a professional competence in the discipline as a whole, as well as expertise in one major and one minor field. The courses in the department are grouped under the following broad categories: international relations, comparative politics, political theory, American politics, and methodology.

Ph.D. students are required to demonstrate competence in two fields of study and, by participating in the instructional program, to undergo training as teachers. A minimum of four courses and a comprehensive examination is required in the major field. Three courses are required in the minor field.

The Institute for the Study of the Americas and the Graduate Certificate

The Institute for the Study of the Americas and the Consortium in Latin American Studies at UNC–Chapel Hill and Duke University serve as a medium for interdisciplinary communication on Latin America, encouraging and stimulating instruction and research on the region. They provide funding for interdisciplinary working groups, visiting scholars, research workshops, and guest lectures, as well as support for graduate students through academic year and summer fellowships and research and conference travel grants. The program has been funded as a National Resource (Title VI) Center since 1991 by the U.S. Department of Education.

Although the University of North Carolina at Chapel Hill does not grant an interdisciplinary postgraduate degree in Latin American studies, graduate students seeking to document their area expertise are encouraged to earn a certificate in Latin American studies in conjunction with any advanced degree in any University graduate program. The requirements for the certificate are

1. A minimum of two semesters of residence
2. Language competence in Spanish or Portuguese
3. Four graduate courses on Latin American topics
4. A thesis on a topic related to Latin America, and
5. An oral defense of the thesis

Graduate students interested in obtaining a certificate in Latin American studies should contact the director of the Institute for the Study of the Americas.

Following the faculty member's name is a section number that students should use when registering for independent studies, reading, research, and thesis and dissertation courses with that particular professor.

Professors

Navin Bapat (68), International Relations, Conflict Processes, Political Economy
Frank Baumgartner (72), Public Policy, Agenda Setting, Interest Groups, Lobbying
Mark Crescenzi (05), International Relations, Conflict Processes, Political Economy
Stephen Gent (08), International Relations, Conflict Processes
Jonathan Hartlyn (46), Comparative Politics, Latin American Politics
Marc Hetherington (21), American Politics, Political Behavior
Liesbet Hooghe (04), Comparative Politics, European Union, Western European Politics
Evelyne Huber (54), Comparative Politics, Political Economy, Latin American Politics
Gary Marks (18), Comparative Politics, Western European Politics
Cecilia Martinez-Gallardo (69), Comparative Politics, Latin American Politics
Kevin McGuire (60), American Politics, Judicial Politics
Jason Roberts (73), American Political Institutions, Congress
Graeme Robertson (07), Comparative Politics, Russian and Eurasian Politics
Timothy Ryan (61), American Political Behavior, Political Psychology
Donald Searing (30), Comparative Politics, Political Psychology
Jeff Spinner-Halev (11), History of Political Thought, Contemporary Political Theory, Democratic Theory
Sarah Treul Roberts (23), American Political Institutions, Congress
Isaac Unah (62), American Politics, Judicial Politics
Milada Vachudova (12), Comparative Politics, Western and Eastern European Politics

Associate Professors

Cameron Ballard-Rosa (19), International Relations, International Political Economy
Anna Bassi (41), Formal Theory, Experimental Methodology
Susan Bickford (58), History of Political Thought, Feminist Theory, Democratic Theory
Christopher Clark (16), American Politics, Race and Representation, State Politics
Lucy Martin (24), Comparative Politics, Political Economy, African Politics
Cara Nine (56), Political Theory, PPE (Philosophy, Politics & Economics)
Santiago Olivella (25), Quantitative Methods, Comparative Politics
Simon Weschle (59), Comparative Politics – Europe

Assistant Professors

Ashley Anderson (63), Comparative Politics, Middle Eastern and North African Politics
Caitlin Andrews-Lee (40), Comparative Politics – Latin America
Brian Guay (44), American Politics
Kaneesha Johnson (45), American Politics – Southern Politics
Mary Kroeger (39), American Politics, State Politics
Junghyun Lim (65), International Relations, International Political Economy
Neil O'Brian (42), American Politics
Tyler Pratt (67), International Relations, International Political Economy
Alexander Sahn (14), American Politics
Ye Wang (22), Quantitative Methods

Teaching Professor

Robert Jenkins (26), Slavic, Eurasian, and East European Studies

Teaching Associate Professors

Suzanne Globetti (15), American Politics
Matt Weidenfeld (27), Political Theory, American Politics

Teaching Assistant Professors

Nicklaus Steiner (57), Comparative Politics
Annie Watson (66), Methods
Jakob Wiedekind (64), Comparative Politics

Postdoctoral Research Associates

Sasha de Vogel

Professors Emeriti

Pamela Conover
Virginia Gray
Michele Hoyman
Michael Lienesch
Stuart Elaine Macdonald
Michael MacKuen
Timothy McKeown
Dick Richardson
Lars Schoultz
John Stephens
James Stimson
James White

POLI

Advanced Undergraduate and Graduate-level Courses

POLI 400. Executive Politics. 3 Credits.
This course explores how presidents select policy options, how they decide timing, what shapes their congressional support, and how they build successful coalitions.

Rules & Requirements
Grading Status: Letter grade.

POLI 401. Political Economy I: The Domestic System. 3 Credits.
Problems of the national government in managing capitalist development and economic growth; political constraints; patterns of conflict among domestic actors.

Rules & Requirements
Grading Status: Letter grade.

POLI 404. Race, Immigration, and Urban Politics. 3 Credits.
This course provides a survey of the literature on race, immigration, and urban politics in the contemporary United States. The goal is to understand the complex relationship between racial/ethnic identity and local political processes. Students explore topics such as police brutality, immigration, the education system, and coalition politics.

Rules & Requirements
IDEAs in Action Gen Ed: HI-SERVICE.
Requisites: Prerequisite, POLI 100.
Grading Status: Letter grade.

POLI 405. Local Politics in the United States. 3 Credits.
This course provides an overview of the politics of local governments in the United States. Topics covered include the economics and history of urban agglomerations, local governments' place in the American federal system, the role of race and immigration in how parties and coalitions govern, whether local governments are responsive to voters, and the role cities play in shaping housing, education, climate, and criminal justice policy.

Rules & Requirements
IDEAs in Action Gen Ed: FC-POWER, RESEARCH.
Grading Status: Letter grade.

POLI 406. State Governments: Laboratories of Democracy. 3 Credits.
Advanced topics in state government and politics, including political behavior and processes, governmental institutions, public policies. Emphasis on how states serve as the laboratories of democracy in a federal system.

Rules & Requirements
Requisites: Prerequisite, POLI 100 or 101.
Grading Status: Letter grade.

POLI 409. Mock Constitutional Convention. 3 Credits.
Students employ their understanding of political philosophy and practical politics to write a new constitution for the United States. Emphasis is on creative blending of theory and practice.

Rules & Requirements
Grading Status: Letter grade.

POLI 410. American Constitutional Law I: Structures of Power. 3 Credits.
A study of the U.S. Supreme Court's interpretation of the constitutional principles of federalism and the separation of powers. Focusing on the written opinions in the Court's leading cases, the course emphasizes both the legal and the political factors that shape the Court's constitutional decisions.

Rules & Requirements
Requisites: Pre- or corequisite, POLI 100.
Grading Status: Letter grade.

POLI 411. American Constitutional Law II: Civil Liberties and Rights. 3 Credits.
A study of the U.S. Supreme Court's interpretation of the constitutional protections of the Bill of Rights and the Fourteenth Amendment. Relying upon the Court's written opinions in cases involving civil liberties and civil rights, the course examines how the Constitution limits the powers of both the federal and state governments. Honors version available.

Rules & Requirements
Requisites: Prerequisite, POLI 100.
Grading Status: Letter grade.

POLI 412. United States National Elections. 3 Credits.
Course studies United States presidential and congressional elections. Emphasis on individual vote, changing party strengths, and the relation of outcomes to policy. Honors version available.

Rules & Requirements
Grading Status: Letter grade.

POLI 414. Election Administration in the United States. 3 Credits.
This is a course about how we administer elections in the United States. The people, processes, and rules by which we administer elections in the United States are critically important to the exercise of free and fair elections that is a cornerstone of a democratic form of governance. A major component of this course is your work as an elections official in the Fall 2024 election. Must be a registered voter in Orange County, NC.

Rules & Requirements
IDEAs in Action Gen Ed: HI-SERVICE.
Requisites: Prerequisite, POLI 100.
Grading Status: Letter grade.

POLI 416. Constitutional Policies and the Judicial Process. 3 Credits.
Analysis of the structure and functions of judicial systems emphasizing the organization, administration, and politics of judicial bureaucracies and roles of judges, juries, counsel, litigants, and interested groups in adjudication processes.

Rules & Requirements
Grading Status: Letter grade.
Same as: PWAD 416.

POLI 417. Advanced Political Psychology. 3 Credits.
Examines in greater depth issues in the field of political psychology, including conflict and conflict resolution, socialization, attitude formation, mass movements, leader-follower relationships, and psychobiography. Honors version available.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

POLI 418. Mass Media and American Politics. 3 Credits.
Junior-senior standing required. Examination of the role, behavior, and influence of the mass media in American politics.

Rules & Requirements
Grading Status: Letter grade.

POLI 419. Race and Politics in the Contemporary United States. 3 Credits.
Restricted to juniors and seniors. Surveys the vast literature on race and politics in the contemporary United States and examines the complex relationship between racial and ethnic identity and political outcomes. It explores broad political science concepts in the context of racial and ethnic groups. Honors version available.

Rules & Requirements
Grading Status: Letter grade.

POLI 420. Legislative Politics. 3 Credits.
Examines the politics of the United States Congress. Emphasis on representation, the legislative process, and policy making. Honors version available.

Rules & Requirements
Grading Status: Letter grade.

POLI 421. Framing Public Policies. 3 Credits.
This course will focus on the process by which policies get framed, or defined, in public discussions. Framing is focusing attention on some elements of a complex public problem rather than others. Readings combine psychological background with case histories of United States and comparative public policy changes over time.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

POLI 422. Minority Representation in the American States. 3 Credits.
This class explores the political representation of blacks, Latina/os, women, and gays and lesbians in the American states. How do these groups achieve descriptive and substantive representation? How does state context shape the political representation of these minorities? Students taking this course should have a strong interest in state politics.

Rules & Requirements
Grading Status: Letter grade.

POLI 424. Legislative Procedure in Congress. 3 Credits.
Examines legislative procedure in Congress. Requires active participation in a Model Congress.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

POLI 428. Sexuality, Race, and Gender: Identity and Political Representation. 3 Credits.
Analyzing the impact of the descriptive representation of marginalized communities on public policy, legislation, and social change. Sexual orientation, identity, gender, ethnicity and race, and the intersectionality of these communities. We seek to understand the role that elected officials can have in driving change, affecting their colleagues and constituents.

Rules & Requirements
Grading Status: Letter grade.

POLI 429. Diversity and Politics. 3 Credits.
Diversity is sometimes cited as a facilitator of political cooperation but more often it is considered a challenge for constructive civic engagement. This course engages the various ways in which different forms of diversity (e.g., racial, ethnic, religious, linguistic, national origin) and politics interact across a wide range of societies.

Rules & Requirements
Requisites: Prerequisite, POLI 130.
Grading Status: Letter grade.

POLI 430. Analysis of National Security Policy. 3 Credits.
Course explores contemporary threats to national security, approaches to national security strategy, policy instruments, the role of military force, and the policy-making process.

Rules & Requirements
Grading Status: Letter grade.
Same as: PLCY 430, PWAD 430.

POLI 431. African Politics and Societies. 3 Credits.
The problems of race, class, and ideology are explored in the countries south of the Zambezi River, along with the political and economic ties that bind these countries.

Rules & Requirements
Grading Status: Letter grade.

POLI 432. Tolerance in Liberal States. 3 Credits.
This course will compare the theory and practice of tolerance in the United States and Europe, with particular attention to Great Britain and France.

Rules & Requirements
Grading Status: Letter grade.

POLI 433. Politics of the European Union. 3 Credits.
Examines the politics and political economy of institutional change and policy making in the European Union in comparative perspective. Honors version available.

Rules & Requirements
Grading Status: Letter grade.
Same as: EURO 433.

POLI 434. Politics of Mexico. 3 Credits.
This course provides a survey of 20th-century politics in Mexico, including the construction of the single-party regime under the PRI and the political and economic changes in the second half of the century that marked the end of the one-party regime and inaugurated a new era of political competition.

Rules & Requirements
Grading Status: Letter grade.

POLI 435. Democracy and Development in Latin America. 3 Credits.
The analysis of central issues of democracy and development in Latin America. Honors version available.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

POLI 438. Democracy and International Institutions in an Undivided Europe. 3 Credits.
Explores the collapse of communist rule in 1989 and the reaction of international institutions to the challenges of democratization, economic transition, ethnic conflict, and European integration in an undivided Europe.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.
Same as: EURO 438.

POLI 439. Analyzing European Public Opinion. 3 Credits.
The course introduces students to the theory and practice of studying European public opinion. The course is split into four parts. In the first part, we will discuss core concepts and important problems in the study of public opinion. In the second part, we will study tools and common data sets for the analysis of European public opinion. In the third part, we will examine several recent contributions on different aspects of European public opinion.

Rules & Requirements
IDEAs in Action Gen Ed: FC-QUANT.
Grading Status: Letter grade.

POLI 440. How to Stay in Power When the People Want You Dead: The Politics of Authoritarian Survival. 3 Credits.
Dictators do not rely on consent of the people to stay in power. But they do still face constraints and must perform a delicate balancing act to maintain enough support to stay in office and reap its rewards. This class seeks to understand when autocrats are successful and when they fail.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

POLI 441. Israeli Politics and Society. 3 Credits.
This course will explore Israeli society, Israeli politics, and the Arab-Israeli conflict.

Rules & Requirements
Grading Status: Letter grade.

POLI 442. International Political Economy. 3 Credits.
Theories of international political economy, major trends in international economic relations, selected contemporary policy issues.

Rules & Requirements
IDEAs in Action Gen Ed: FC-GLOBAL.
Requisites: Prerequisite, POLI 150.
Grading Status: Letter grade.
Same as: EURO 442.

POLI 443. American Foreign Policy: Formulation and Conduct. 3 Credits.
The role of Congress, the press, public opinion, the president, the secretary and the Department of State, the military, and the intelligence community in making American foreign policy. Emphasizes the impact of the bureaucratic process on the content of foreign policy.

Rules & Requirements
Requisites: Prerequisite, POLI 150; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Same as: PWAD 443.

POLI 444. Terrorism and International Peace. 3 Credits.
The U.S. 9/11 attack represents the defining terrorist attack to Americans, but in most of the world, terrorism has long been part of politics. We will examine what motivates individuals to consider violence, how individuals organize to protect their political interests, the types of tactics used by violent groups and the state's response, before concluding with a study of collapsed states, the international implications of political violence, and possibilities for conflict resolution.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.
Same as: PWAD 444.

POLI 447. Immigrant Integration in Contemporary Western Europe. 3 Credits.
Immigrant integration has been one of the most intense political issues in Western Europe in recent decades. The extent to which these immigrants have successfully integrated is a hot topic of debate across Europe, and there is no consensus about the best way to promote integration. This course explores these debates. Honors version available.

Rules & Requirements
Grading Status: Letter grade.

POLI 448. The Politics of Multilevel Governance. 3 Credits.
Political authority is changing around the world. Decision making has shifted down to state and local governments, such as Catalonia and Scotland, and up to international organizations such as the European Union and the World Health Organization. What does this mean for the future of the national state?

Rules & Requirements
Grading Status: Letter grade.

POLI 449. Beg, Borrow, or Steal: How Governments Get Money and Its Effects on Accountability. 3 Credits.
This course explores the politics behind taxation, foreign aid, natural resources, and debt, focusing on how each affects accountability and state capacity. Topics include when governments tax; whether taxation causes democratization; the effects of foreign aid and oil money on corruption and conflict; and how government debt shapes domestic politics.

Rules & Requirements
Grading Status: Letter grade.

POLI 450. Contemporary Inter-American Relations. 3 Credits.
A comprehensive analysis of hemispheric international relations and foreign policies of individual Latin American nations. Honors version available.

Rules & Requirements
Grading Status: Letter grade.

POLI 451. Race, Ethnicity, and Political Change in Comparative Perspective. 3 Credits.
The course examines the interplay of race, ethnicity, political institutions, and political mobilization in modern state and nation-building. Through the use of broadly drawn international case studies, the politics of ethnicity and race is analyzed from the perspective of global processes of state building, colonialism and decolonization, and capitalist development as well from local development of ideology and political organizations.

Rules & Requirements
Grading Status: Letter grade.

POLI 452. Africa and International Conflict. 3 Credits.
The purpose of this course is to examine Africa's conflicts using an historical examination and advances in international relations theory. We will examine European colonial intervention, the wars of independence, the Cold War, and the use of proxies, insurgencies, the African World War, the Sudanese War, and the "war of terrorism."

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.
Same as: PWAD 452.

POLI 453. When Countries Go Broke: Political Responses to Financial Crises. 3 Credits.
What happens when countries go broke? This course considers the complex historical relation between revenue generation and the development of the nation-state, and details a variety of major crises facing governments today, including the political determinants of and responses to major recent financial crises.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

POLI 457. International Conflict Processes. 3 Credits.
Analysis of international conflict and the causal mechanisms that drive or prevent conflict. Emphasis is on the conditions and processes of conflict and cooperation between nations.

Rules & Requirements
Grading Status: Letter grade.
Same as: PWAD 457.

POLI 458. International Conflict Management and Resolution. 3 Credits.
Examines the management and resolution of international and civil wars. Honors version available.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Requisites: Prerequisite, POLI 150.
Grading Status: Letter grade.
Same as: PWAD 458.

POLI 459. Trans-Atlantic Security. 3 Credits.
The course explores the development of Euro-Atlantic security institutions (NATO, EU) and compares security policy in the United States and Europe. Cases include policy toward the Balkans, Afghanistan, Russia, and Ukraine. Includes review of concepts of security and selected international relations approaches to international organizations. Honors version available.

Rules & Requirements
Grading Status: Letter grade.
Same as: PWAD 459.

POLI 469. Conflict and Intervention in the Former Yugoslavia. 3 Credits.
Focuses on ethnic and political conflicts in the former Yugoslavia and efforts by the international community to end conflict and promote peace and reconstruction. Honors version available.

Rules & Requirements
Grading Status: Letter grade.
Same as: PWAD 469.

POLI 470. Social and Political Philosophy. 3 Credits.
An examination of the logic of social and political thought with an analysis of such concepts as society, state, power, authority, freedom, social and political obligation, law, rights. Honors version available.

Rules & Requirements
Grading Status: Letter grade.

POLI 471. Contemporary Political Thought. 3 Credits.
Survey of the historical foundations, central tenets, and political consequences of prominent 20th-century political theories. Topics include contemporary liberalism and Marxism, fascism, theories of development, populism, feminism. Honors version available.

Rules & Requirements
Grading Status: Letter grade.

POLI 472. Problems of Modern Democratic Theory. 3 Credits.
Major problem areas in democratic theory including definitions, presuppositions, and justifications of democracy, liberty, equality, minority rights, public interest, participation, dissent, and civil disobedience. Honors version available.

Rules & Requirements
Grading Status: Letter grade.

POLI 473. Politics and Literature. 3 Credits.
Identifies and interprets political ideas using historical and contemporary literary sources. Examines literature as political practice.

Rules & Requirements
Grading Status: Letter grade.

POLI 474. Global Justice. 3 Credits.
This course looks at major themes in contemporary theories of global ethics and global justice. Potential topics include the duty to give aid to foreigners, global distributive justice, resource rights and justice, and immigration ethics.

Rules & Requirements

IDEAs in Action Gen Ed: FC-VALUES.
Grading Status: Letter grade.

POLI 475. Environmental Political Theory. 3 Credits.
This course brings the tools and techniques of political theory to bear on contemporary environmental challenges. Students will examine different conceptions of nature and of human-nature relations, investigate arguments about the moral and political status of nonhuman others, think about the role of individual responsibility in addressing climate change, and grapple with issues of inequality, environmental justice, and power.

Rules & Requirements

IDEAs in Action Gen Ed: FC-POWER or FC-VALUES.
Grading Status: Letter grade.

POLI 476. The Political Theory of the American Founding. 3 Credits.
A role-immersive simulation of the Constitutional Convention of 1787. Students employ their knowledge of the political theory and science of the founding period to become the Convention of 1787 and write a constitution.

Rules & Requirements
Grading Status: Letter grade.

POLI 477. Advanced Feminist Political Theory. 3 Credits.
Examines in greater depth and complexity current issues in feminist political theory. Topics: theories of subjectivity and solidarity, feminist poststructuralist and post-Marxist thinking, gender in the public sphere.

Rules & Requirements
Grading Status: Letter grade.
Same as: WGST 477.

POLI 478. The Politics, Philosophy, and Economics of Education. 3 Credits.
The course explores the politics, philosophy, and economics of US education. We will cover topics such as the goals of education; education politics at the local, state, and federal levels; school finance; accountability; markets in education; the role of philanthropy; and student debt.

Rules & Requirements
Grading Status: Letter grade.

POLI 480. Experimenting on Politics. 3 Credits.
A research intensive course on the design, implementation, interpretation, and communication of political science experiments. Honors version available.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Requisites: Prerequisite, POLI 281 or equivalent.
Grading Status: Letter grade.

POLI 487. Networks in International Relations. 3 Credits.
The modern international system is a highly-connected interdependent network of people, non-state actors, and governments. The course will introduce key concepts from network analysis to provide the conceptual and methodological tools to analyze networks in international politics. Students will also learn statistical tools used to analyze and visualize network data.

Rules & Requirements

IDEAs in Action Gen Ed: FC-QUANT.
Grading Status: Letter grade.

POLI 488. Game Theory. 3 Credits.
Increasingly, political and social scientists are using game theory to analyze strategic interactions across different settings. This course aims to give students a deep technical understanding of the most relevant concepts of game theory and how these concepts have been applied to the study of political and economic phenomena.

Rules & Requirements
Requisites: Prerequisite, POLI 287 or 288.
Grading Status: Letter grade.

POLI 490. Advanced Special Topics in Political Science. 3 Credits.
A detailed examination of advanced special topics in political science. Honors version available.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

POLI 630. Political Contestation in Europe. 3 Credits.
Examines recent developments in the European integration process by exploring the potential for political contestation concerning European Union matters in national politics. Familiarizes students with the main theoretical approaches and the extensive empirical work dealing with the effects of European integration.

Rules & Requirements
Grading Status: Letter grade.

POLI 631. European Security: The Enlarging European Union and the Trans-Atlantic Relationship. 3 Credits.
Permission of the instructor for undergraduates. Since the collapse of communism from 1989 to 1991, the European Union has faced a fundamentally different geopolitical neighborhood and an evolving relationship with the United States. We will explore how Europe has addressed new challenges to its security in its neighborhood and beyond.

Rules & Requirements
Grading Status: Letter grade.

POLI 632. The European Union as a Global Actor. 3 Credits.
Permission of the instructor for undergraduates. This seminar introduces students to basic theoretical approaches to both international relations and the European Union by focusing on the European Union's external relations and foreign policies.

Rules & Requirements
Grading Status: Letter grade.

POLI 635. Transatlantic Politics of Climate Change. 3 Credits.
This course compares climate change policies of the European Union and the United States within the context of global climate policy and institutions. By investigating climate change policy, students will gain an understanding of the policy processes in the EU and US. The course also introduces climate policy in EU member states and US states. Students engage in active learning exercises and produce a final research paper.

Rules & Requirements
Grading Status: Letter grade.

POLI 691H. Honors Seminar in Research Design. 3 Credits.
Required of all students in the honors program in political science.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

POLI 692H. Honors Thesis Research. 3 Credits.
Required of all students in the honors program in political science.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

POLI 693H. Honors Thesis Research. 3 Credits.
Required of all students in the honors program in political science.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

POLI 698. Philosophy, Politics, and Economics: Capstone Course. 3 Credits.
Permission of the department. This capstone course advances PHIL 384, focusing on such theoretical and philosophical issues as the analysis of rights or distributive justice and the institutional implications of moral forms.

Rules & Requirements

IDEAs in Action Gen Ed: FC-VALUES.
Requisites: Prerequisite, PHIL 384.
Grading Status: Letter grade.
Same as: PHIL 698, ECON 698.

Graduate-level Courses

POLI 700. Core Seminar on American Politics I. 3 Credits.
An overview of research on American politics that introduces students to a wide range of substantive understandings and theoretical perspectives.

Rules & Requirements
Grading Status: Letter grade.

POLI 701. Core Seminar in American Politics II. 3 Credits.
An overview of research on American politics that introduces students to a wide range of substantive understandings and theoretical perspectives. (Second semester.)

Rules & Requirements
Grading Status: Letter grade.

POLI 703. Congress and Theory Building. 3 Credits.
This course examines diverse theoretical perspectives on national institutional change and stability, using as our institutional focus the United States Congress between 1789 and 1989.

Rules & Requirements
Grading Status: Letter grade.

POLI 704. American Presidency. 3 Credits.
Survey of the substantial literature and research on the American Presidency.

Rules & Requirements
Grading Status: Letter grade.

POLI 705. Judicial Politics. 3 Credits.
Survey of recent literature on the politics of judicial institutions and the behavior of judges, lawyers, litigants, and other actors in the judicial process, emphasizing relationships between judicial and other policy-making processes.

Rules & Requirements
Grading Status: Letter grade.

POLI 708. Seminar in Subnational Politics and Policy. 3 Credits.
This course surveys the major topics and research programs in subnational American politics and policy, with special attention to the vertical and horizontal intergovernmental interactions inherent within federal political systems.

Rules & Requirements
Grading Status: Letter grade.

POLI 710. Political Parties. 3 Credits.
Selected problems and issues in the study of American and comparative parties and party systems.

Rules & Requirements
Grading Status: Letter grade.

POLI 711. American Political Behavior. 3 Credits.
Theoretical study of mass behavior (i.e., participation, voting, protest) in the American context.

Rules & Requirements
Grading Status: Letter grade.

POLI 712. Public Opinion. 3 Credits.
A study of public opinion, its formation, expression, and impact on political systems and public policy.

Rules & Requirements
Grading Status: Letter grade.

POLI 713. Dynamics of Electoral Politics. 3 Credits.
Change within mass electorates. Topics include issue and attitude change, political realignments, and models of electoral competition.

Rules & Requirements
Grading Status: Letter grade.

POLI 714. Political Socialization. 3 Credits.
The learning process by which individuals acquire values, attitudes, and norms affecting their behavior in the political community, with emphasis on major agencies of socialization: family, schools, peer groups, and media.

Rules & Requirements
Grading Status: Letter grade.

POLI 715. Seminar on Political Psychology. 3 Credits.
This course surveys and evaluates current and past research in political psychology. Topics may include: personality, attitudes and values, socialization, political reasoning, information processing, decision making, political identity, and political affect.

Rules & Requirements
Requisites: Prerequisite, POLI 711.
Grading Status: Letter grade.

POLI 716. Organized Interests in United States Politics. 3 Credits.
The course examines the major theories and empirical research on how organized interests mobilize and maintain themselves, interact within populations, exercise influence through lobbying, and impact public policy. It includes the full range of interest organizations operating in American politics at any level and in all institutional venues.

Rules & Requirements
Grading Status: Letter grade.

POLI 717. Potential for Democratic Stability in Deeply Divided Societies. 3 Credits.
The theory of power sharing tries to explain how stable democracy is possible in deeply divided societies.

Rules & Requirements
Grading Status: Letter grade.

POLI 718. Agenda-Setting. 3 Credits.
This class will focus on theoretical and empirical approaches to the study of agenda-setting in both American and comparative settings. Begins in the 1950s through current literature, covering a wide range of methodological approaches. Assignments include participation in seminar discussion, short papers on readings, and substantial original research paper.

Rules & Requirements
Grading Status: Letter grade.

POLI 720. Managing Public Policy. 3 Credits.
The role(s), function(s), and strategy of public administrators in the formulation, adoption, and implementation of public policies. Policy from the perspective of the policy maker; cases exploring the relationship of theories to actual policy processes. Spring.

Rules & Requirements
Requisites: Prerequisites, POLI 700, 745, or PUBA 723.
Grading Status: Letter grade.

POLI 721. Public Policy and Administration. 3 Credits.
Alternative explanation of public policies and policy-making processes; introduction to policy analysis as a way to inform choices among policy options; policy implementation through administrative practices and procedures.

Rules & Requirements
Grading Status: Letter grade.

POLI 723. Approaches to Conflict Transformation: Theory and Practice of Peacebuilding Across Contexts. 3 Credits.
In this course, students will learn about a variety of mechanisms for resolving or transforming conflict on interpersonal, community, state, and international levels. The pedagogy of this course will be both theoretical and practical. Through readings, assignments, and class discussion, we will wrestle with questions about the efficacy, significance, and ethical implications of various methods of conflict transformation; and we will learn some techniques of conflict resolution from experienced practitioners.

Rules & Requirements
Grading Status: Letter grade.

POLI 724. Organization Design. 3 Credits.
Field theory, motivation, communication, and systems perspectives as theoretical bases for organization design.

Rules & Requirements
Requisites: Prerequisite, POLI 700, or permission of the instructor.
Grading Status: Letter grade.

POLI 725. Public Administration Analysis and Evaluation II. 3 Credits.
Second course in a two-course sequence introducing students to applied research design, data collection, data management, data analysis, and analytical reporting to allow students to conduct original research, be informed consumers of other research, and ultimately improve public program planning and evaluation decisions.

Rules & Requirements
Requisites: Prerequisite, PUBA 719.
Grading Status: Letter grade.
Same as: PUBA 720.

POLI 726. Intergovernmental Relations. 3 Credits.
Conflict and cooperation among governmental officials representing national, state, and local governments in the United States; changing roles of governments and new mechanisms for intergovernmental collaboration.

Rules & Requirements
Grading Status: Letter grade.

POLI 727. Framing. 3 Credits.
This class will focus on the theoretical and empirical studies of individual and collective framing. Readings will be from journalism, sociology, psychology, and political science and will include both US-based and comparative studies. Assignments include participation in seminar discussion, short papers on readings, and substantial original research paper.

Rules & Requirements
Grading Status: Letter grade.

POLI 728. Policy Workshop. 3 Credits.
Application of theories and techniques of policy analysis and planning to current public problems for actual clients. Focus on design and execution of policy research, and interpretation and presentation of results.

Rules & Requirements
Grading Status: Letter grade.

POLI 729. The Psychology of Collective Politics. 3 Credits.
Explores the psychological underpinnings of collective politics from the perspective of both individuals and groups. Political behaviors examined include deliberation, protest, nationalism, and intergroup conflict.

Rules & Requirements
Grading Status: Letter grade.

POLI 730. Comparative Political Research and Analysis. 3 Credits.
The seminar introduces the beginning graduate student to the central issues and major developments in the field of comparative government and politics.

Rules & Requirements
Grading Status: Letter grade.

POLI 731. The Politics of Development and Change. 3 Credits.
The theories, concepts, and mechanisms of political change, with particular attention to processes of development and modernization in the new nations of Africa, Asia, and Latin America.

Rules & Requirements
Grading Status: Letter grade.

POLI 732. Political Economy of Multilevel Government. 3 Credits.
The vertical distribution of governmental authority is changing around the world. Decision making, resources, and power are shifting downward (to state and local governments) and upward (to supra-national bodies like the European Union, other regional or international organizations). This course examines theories and empirical studies that explore the causes and consequences of these trends.

Rules & Requirements
Grading Status: Letter grade.

POLI 733. European Institutions and Integration. 3 Credits.
This seminar introduces students to key concepts and developments of European integration and critically assesses the evolution of the European Union.

Rules & Requirements
Grading Status: Letter grade.

POLI 734. Comparative Political Behavior. 3 Credits.
Political behavior of the public in cross-national or non-American settings. Political culture, belief systems, participation, protest, revolution, voting behavior, civic behavior, socialization, and media.

Rules & Requirements
Grading Status: Letter grade.

POLI 735. Comparative Bureaucracy. 3 Credits.
A cross-national examination of functions, career patterns, role behavior, and relationships of bureaucratic elites within the context of national political systems. Research on particular countries is emphasized.

Rules & Requirements
Grading Status: Letter grade.

POLI 736. Political Transitions and Democratization in Comparative Perspective. 3 Credits.
Examination of contrasting theoretical approaches to understanding democracy. Comparative study of Africa, Eastern Europe, and Latin America elucidates challenges and opportunities that affect possibilities for democratization and consolidation.

Rules & Requirements
Grading Status: Letter grade.

POLI 737. Psychology of Elite Decision Making. 3 Credits.
Political thinking of politicians and civil servants in domestic and foreign policy. Perception, cognition, learning, attitude change and persuasion, aging, motivation, emotions, and personality.

Rules & Requirements
Grading Status: Letter grade.

POLI 738. Power and Morality in Politics. 3 Credits.
Motives of power and morality in rational choice theories and theories of power sharing. Empirical findings and normative evaluations.

Rules & Requirements
Grading Status: Letter grade.

POLI 739. Communist Political Systems. 3 Credits.
An examination of the political evolution and process in societies governed by communist parties.

Rules & Requirements
Grading Status: Letter grade.

POLI 740. Issues in Latin American Politics. 3 Credits.
Explores the central issues of Latin American politics and analyzes major theoretical debates.

Rules & Requirements
Grading Status: Letter grade.

POLI 741. Latin American Politics: Research and Analysis. 3 Credits.
Reviews major works and theoretical perspectives in the literature, assesses contemporary political science research on Latin America, and examines problems of field research.

Rules & Requirements
Grading Status: Letter grade.

POLI 742. Political Economy of Latin American Development. 3 Credits.
Examines effects of state, regime-type, and political processes on agricultural and industrial policy in Latin America. Also considers the informal economy, international debt, and relationship between policy and politicization.

Rules & Requirements
Grading Status: Letter grade.

POLI 743. Seminar on United States - Latin American Relations. 3 Credits.
Analysis of the central conceptual concerns and major theoretical approaches to the study of inter-American relations, with a focus on United States foreign policy toward the region.

Rules & Requirements
Grading Status: Letter grade.

POLI 744. African Politics: Challenges of Democratization and Development. 3 Credits.
Study of the politics of development in contemporary Africa, with emphasis on changing state society relations, the roles of peasants and women in politics, and prospects for democratization.

Rules & Requirements
Grading Status: Letter grade.

POLI 745. Varieties of Democratic Capitalism in Europe and North America. 3 Credits.
This course will examine the development of different types of welfare states in Europe and North America.

Rules & Requirements
Grading Status: Letter grade.

POLI 746. Identities and Transitions. 3 Credits.
Capstone course for the REEES concentration in the Global Studies MA program. Interdisciplinary course focusing on the variety of problems encountered by the societies of East European countries and successor states of the former Soviet Union in their transition from communism to democracy.

Rules & Requirements
Grading Status: Letter grade.
Same as: GLBL 730.

POLI 747. Diversity and Politics. 3 Credits.
Diversity is sometimes cited as a facilitator of political cooperation but more often it is considered a challenge for constructive civic engagement. This course engages the ways in which different forms of diversity (e.g., racial, ethnic, religious, linguistic, gender, national-origin, sexuality) and politics interact across a wide range of societies.

Rules & Requirements
Grading Status: Letter grade.

POLI 748. Fiscal Politics. 3 Credits.
This course covers the politics of government budgets. It focuses on the sources of revenue (taxation, foreign aid, national resources, and debt) as well as levels of redistribution in a comparative perspective.

Rules & Requirements
Grading Status: Letter grade.

POLI 750. Theories of International Relations I. 3 Credits.
Introduction to the central issues and major theoretical developments in the field of international relations, focusing on system structure, political and security issues, and decision making.

Rules & Requirements
Grading Status: Letter grade.

POLI 751. Theories of International Relations II. 3 Credits.
Introduction to the central issues and major theoretical developments in the field of international relations, focusing on the politics of international economic relations, law and organization, and fundamental system change.

Rules & Requirements
Grading Status: Letter grade.

POLI 752. International Organization. 3 Credits.
Theories and approaches to the study of international organizations and regimes, plus selected noneconomic case studies.

Rules & Requirements
Grading Status: Letter grade.

POLI 753. International Conflict and Cooperation. 3 Credits.
An examination of international conflict and cooperative processes in the context of the evolution of the international system.

Rules & Requirements
Grading Status: Letter grade.

POLI 754. Formal Models of International Relations. 3 Credits.
An examination of research that uses formal models to analyze decision making in international relations, with a focus on non-cooperative game theory.

Rules & Requirements
Grading Status: Letter grade.

POLI 756. Politics of the International Economy. 3 Credits.
Positive theories of political choice in trade, monetary relations, foreign investment, and regional integration.

Rules & Requirements
Grading Status: Letter grade.

POLI 757. Political Economy of the Nation State in the World System. 3 Credits.
Analysis of the interaction between the external sector of the economy and domestic politics in weak capitalist states.

Rules & Requirements
Requisites: Prerequisite, ECON 460 or 465; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

POLI 758. Theories of Foreign Policy. 3 Credits.
This course is an introduction to the field of foreign policy analysis. Its primary goal is to expose students to the theories and methods of foreign policy research and analysis.

Rules & Requirements
Grading Status: Letter grade.

POLI 759. Research in Cooperation and Conflict Processes. 3 Credits.
Advanced doctoral-level course. Builds off POLI 750 to explore current lines of research on conflict and cooperation. Each student will develop potential research projects and one expanded research project. The project should be suitable for subsequent development into a thesis and/or publication. Course focuses on research and the research process.

Rules & Requirements
Grading Status: Letter grade.

POLI 763. Divided Societies. 3 Credits.
When a society is deeply divided along racial, ethnic, religious or linguistic lines, this classical model brings the risk that the majoritarian segment of society always stays in power.

Rules & Requirements
Grading Status: Letter grade.

POLI 768. Feminist Political Theory. 3 Credits.
A survey of feminist approaches to politics and political inquiry.

Rules & Requirements
Grading Status: Letter grade.
Same as: WGST 768.

POLI 771. Modern Political Theory. 3 Credits.
An introduction to modern political thought, its major thinkers and issues.

Rules & Requirements
Grading Status: Letter grade.

POLI 773. Major Issues in Political Theory. 3 Credits.
An introduction to the major issues of political theory, with emphasis on the major thinkers in the history of Western political thought.

Rules & Requirements
Grading Status: Letter grade.

POLI 774. Classical Political Theory. 3 Credits.
An introduction to ancient and medieval political thought, its major thinkers and issues.

Rules & Requirements
Grading Status: Letter grade.

POLI 775. American Political Theory. 3 Credits.
Survey of issues and problems in American political thought, with analysis of major thinkers and selected topics and emphasis on the role of family, society, and economy in political theory.

Rules & Requirements
Grading Status: Letter grade.

POLI 776. Recent and Contemporary Political Theory. 3 Credits.
An introduction to recent and contemporary political thought, its major thinkers and issues. Emphasis on Continental thought.

Rules & Requirements
Grading Status: Letter grade.

POLI 777. Major Figures in Political Theory. 3 Credits.
An in-depth study of the primary and secondary literature on one or two major figures in the history of political thought (e.g., Plato, Machiavelli, Hobbes, Marx).

Rules & Requirements
Grading Status: Letter grade.

POLI 778. The Formal Theory of Institutions. 3 Credits.
This course is a comprehensive introduction to the burgeoning literature on the formal theory of institutions.

Rules & Requirements
Grading Status: Letter grade.

POLI 780. Scope and Methods of Political Research. 2 Credits.
Permission of the instructor. A discussion of the theory and process of political analysis, including philosophy of science, research design, the methods of drawing causal inferences, and of generating data.

Rules & Requirements
Grading Status: Letter grade.

POLI 782. Logic of Political Inquiry. 3 Credits.
A critical examination of models of political inquiry. Empirical (naturalist), interpretive, and critical metatheories are considered in terms of each model's ontological, epistemological, and practical/political consequences and presuppositions.

Rules & Requirements
Grading Status: Letter grade.

POLI 783. Probability and Statistics. 4 Credits.
Introduction to probability theory and basic principles of statistical inference, including estimation and tests of hypotheses; basic programming in R.

Rules & Requirements
Grading Status: Letter grade.

POLI 784. Regression Models. 4 Credits.
Introduction to linear and nonlinear regression models for continuous and categorical data. Topics include ordinary least squares estimation, maximum likelihood estimation, casual inference for observational studies, graphical model interpretation techniques, and data analysis in R.

Rules & Requirements
Grading Status: Letter grade.

POLI 786. Time Series Analysis of Political Data. 3 Credits.
Discusses the problems that arise when regression methodologies are applied to time series and pooled time series data.

Rules & Requirements
Requisites: Prerequisite, POLI 784; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

POLI 787. Advanced Topics in Political Data Science. 3 Credits.
Survey of important contemporary trends in advanced data analysis. Likely topics include multilevel models, measurement models, machine learning, modeling dependence, and advanced computation in R.

Rules & Requirements
Requisites: Prerequisites, POLI 783 and 784.
Grading Status: Letter grade.

POLI 788. Statistics and Data Analysis for Political Science and Policy Research. 3 Credits.
This course focuses on the application of statistical analysis to quantitative data in order to study theoretically and substantively interesting questions about politics and policy.

Rules & Requirements
Grading Status: Letter grade.

POLI 789. Game Theory. 3 Credits.
This class provides graduate students with an introduction to game theoretic modeling, focusing on noncooperative game theory. Topics covered include normal form games, extensive-form games, and games of incomplete information.

Rules & Requirements
Grading Status: Letter grade.

POLI 790. Positive Political Theory. 3 Credits.
This seminar surveys applications of rational choice models across the subfields of political science. It also considers critiques of national choice approaches and alternative theoretical approaches to modeling human behavior.

Rules & Requirements
Grading Status: Letter grade.

POLI 791. Game Theory II. 3 Credits.
This course is designed for students who desire greater proficiency in the more advanced topics. The course focuses on games of incomplete information that are widely used in political science like signaling and cheap-talk games and on topics that are starting to play a prominent role like principal agents models.

Rules & Requirements
Requisites: Prerequisite, POLI 789.
Grading Status: Letter grade.

POLI 792. Research Seminar in Political Communication. 3 Credits.
Participants consider the scientific literature and conduct innovative research. Topics focus on different media institutions' structure, political actors' communication strategies, and the ways that citizens engage with social, print, and electronic media. The aim is to better understand political news, public opinion, and the character of electoral democracy.

Rules & Requirements
Grading Status: Letter grade.

POLI 799. TAM Internship Credit. 3 Credits.
POLI 799 includes both an internship and an academic component. The student intern is required to work at least 8 hours per week, for a minimum of 100 hours, at the internship agency. In addition to the hours worked, the student must, under the supervision of the faculty supervisor, write a research paper or complete a comparable project, and keep a journal of internship activities.

Rules & Requirements
Requisites: Prerequisite, one semester of coursework in TAM.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

POLI 801. Judicial Behavior Research. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.

POLI 803. Seminar on Application of Political Behavior Research to Public Problems. 3 Credits.
Exploration and examination of the ways in which political behavior research can be applied to understanding and ameliorating public problems.

Rules & Requirements
Grading Status: Letter grade.

POLI 811. Seminar in Political Sociology. 3 Credits.
The relationships between social structure and political decisions. Regimes and social structure; bureaucracies, political associations, and professions; science and politics; closed and open politics; political movements and change.

Rules & Requirements
Grading Status: Letter grade.
Same as: SOCI 811.

POLI 813. Comparative Welfare States. 3 Credits.
This course examines the development, achievements, present crisis, and future of welfare states in advanced industrial democracies.

Rules & Requirements
Grading Status: Letter grade.
Same as: SOCI 813.

POLI 816. Influential Works in Democracy. 3 Credits.
The course covers the major traditions of democratic theory from ancient Greece to the present, ethnographies on political organization, and 19th- and 20th-century observations on democracy.

Rules & Requirements
Grading Status: Letter grade.
Same as: SOCI 816.

POLI 830. European Politics. 3 Credits.
Active participation of students in a research project on career motives and ethical principles in European countries.

Rules & Requirements
Grading Status: Letter grade.

POLI 831. Comparative European Societies. 3 Credits.
Examination of commonalities and differences of European societies and of the tensions and difficulties attending the European integration process.

Rules & Requirements
Grading Status: Letter grade.

POLI 846. Seminar in International Communication. 3 Credits.
Reading and research in selected topics. Focus in recent years has included global news flow, communication and social change, communication in the collapse of communism, Western dominance in international communication, global culture, and the influence of technology.

Rules & Requirements
Requisites: Prerequisite, MEJO 446; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Same as: MEJO 846.

POLI 850. Theories of International Politics. 3 Credits.
Topics relating to the development of theory in the realm of international politics.

Rules & Requirements
Grading Status: Letter grade.

POLI 851. Seminar in International Relations. 3 Credits.
Special topics in international relations, such as alliances, bargaining, decision making, economic interdependence, and international human rights.

Rules & Requirements
Grading Status: Letter grade.

POLI 852. U.S.-E.U. Lecture Series. 1 Credits.
One credit course designed to enhance students' understanding of transatlantic studies through lectures from and discussion with experts in the field. Topics will focus on European Union and/or United States foreign and domestic politics as well as on contemporary transatlantic relations.

Rules & Requirements
Grading Status: Letter grade.

POLI 853. Political Economy of International Money and Finance. 3 Credits.
Investigates the linkages between politics and economics in various realms of global finance, including exchange rates, sovereign debt, and foreign direct investment. Consider efforts to govern global finance, as well as the intersections between domestic politics and the international economy. Classical works and recent research in this area.

Rules & Requirements
Grading Status: Letter grade.

POLI 860. Data Collection Methods. 3 Credits.
Reviews alternative data collection techniques used in surveys, concentrating on the impact these techniques have on the quality of survey data. Topics covered include errors associated with nonresponse, interviewing, and data processing.

Rules & Requirements
Grading Status: Letter grade.
Same as: SOCI 760, PLAN 730.

POLI 861. Questionnaire Design. 3 Credits.
Examines the stages of questionnaire design including developmental interviewing, question writing, question evaluation, pretesting, questionnaire ordering, and formatting. Reviews the literature on questionnaire construction. Provides hands-on experience in developing questionnaires.

Rules & Requirements
Grading Status: Letter grade.
Same as: SOCI 761, PLAN 731.

POLI 862. Practicum on Experiments in Political Science. 3 Credits.
A practicum on conducting experiments in Political Science.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

POLI 870. Seminar in Political Theory. 3 Credits.
Special topics in political theory such as Marxism and Socialism, Democratic theory, contemporary political thought, or related topics.

Rules & Requirements
Grading Status: Letter grade.

POLI 880. Design and Analysis of Experiments and Surveys. 3 Credits.
Introduction to the use of experimental and survey research methods in political science. Topics include: factorial designs, repeated measures design, ANOVA, sampling theory, survey errors and costs, and questionnaire design.

Rules & Requirements
Requisites: Prerequisites, POLI 780 and 783.
Grading Status: Letter grade.

POLI 881. Teaching Political Science. 1.5 Credits.
This course is designed to train graduate students to serve as teaching assistants. It will focus on how to teach at UNC and how to run a good section. Topics covered will include rules and regulations, resources available through student services, emergency procedures, classroom management, how to stimulate discussion and keep up participation, and how to develop supplementary syllabi.

Rules & Requirements
Grading Status: Letter grade.

POLI 882. Fall Friday Lecture Series on Trans-Atlantic Topics. 1 Credits.
This course is designed to enhance students' understanding of trans-Atlantic studies through lectures from and discussion with experts in the field.

Rules & Requirements
Grading Status: Letter grade.

POLI 883. Introduction to Bayesian Modeling for Political & Social Research. 3 Credits.
Introduction to Bayesian modeling and data analysis. The course focuses on basic Bayesian and MCMC theory, as well as applications in the context of common regression and measurement models, including multilevel (generalized) linear models, mixture models, item-response theory models and models for text classification. Basic knowledge of mathematical statistics is desirable, and working knowledge of both the R programming language and the maximum likelihood estimation framework is required.

Rules & Requirements
Requisites: Prerequisite, POLI 784.
Repeat Rules: May be repeated for credit. 3 total credits. 2 total completions.
Grading Status: Letter grade.

POLI 884. Introduction to Machine Learning. 3 Credits.
A seminar-style course providing an introduction to the main concepts and models of machine learning. Prior completion of POLI 883 is recommended.

Rules & Requirements
Requisites: Prerequisites, POLI 783, 784, and 787.
Grading Status: Letter grade.

POLI 885. Behavioral Economics and Experiments. 3 Credits.
The purpose of this course is to provide students with an introduction to behavioral decision research and its applications. Behavioral decision research is intensely interdisciplinary, employing concepts and tools from economics, statistics, and other disciplines, as well as the core discipline of psychology. BDR has had an impact on the fields of medicine, law, military science, environmental sciences, and public policy.

Rules & Requirements
Grading Status: Letter grade.

POLI 888. Applying Data Analysis to Transatlantic Studies. 3 Credits.
This course is designed to get students to expand multivariate data analysis skills and to think critically about the presentation of information in professional settings and the media. A key goal is to give participants the confidence to critically evaluate whether the presentation of data is professionally sound. Another central goal is to expand skills in multivariate analysis by engaging in a semester-long research project that culminates in a publication quality paper.

Rules & Requirements
Requisites: Prerequisite, POLI 788.
Grading Status: Letter grade.

POLI 890. Directed Readings in Political Science. 1-21 Credits.
Permission of the department. Directed readings in a special field under the direction of a member of the graduate faculty.

Rules & Requirements
Grading Status: Letter grade.

POLI 891. Special Topics in Political Science. 1-3 Credits.
Permission of the instructor. Seminar in selected areas of political science. Topics vary from year to year. May be repeated for credit.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

POLI 993. Master's Research and Thesis. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

POLI 994. Doctoral Research and Dissertation. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

Contact Information

Department of Political Science
Visit Program Website (https://politicalscience.unc.edu/)

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DEPARTMENT OF PSYCHOLOGY AND NEUROSCIENCE (GRAD)

The Department of Psychology and Neuroscience offers training for the doctor of philosophy degree in six areas of psychology: behavioral and integrative neuroscience, clinical, cognitive, developmental, quantitative, and social. Each program is designed to acquaint students thoroughly with the theoretical and research content of a particular specialty and to train them in the research skills needed to become competent, creative investigators in their specialty area. In addition, the programs focus on the development of competence in appropriate professional skills.

While many of the requirements for a Ph.D. degree vary with the specialty program, certain requirements apply to all psychology graduate students. Each student must

1. Engage in research during each year of enrollment
2. Pass a Ph.D. written examination
3. Pass a Ph.D. oral examination
4. Submit an acceptable dissertation and pass a final oral examination
5. In most cases, serve as a teaching assistant or teach a course for at least one academic year

Additional information about graduate training in these areas may be obtained from the department's website (http://psychology.unc.edu/). New students are accepted for admission in the fall semester only. Individuals seeking the M.A. degree only are not accepted.

Following the faculty member's name is a section number that students should use when registering for independent studies, reading, research, and thesis and dissertation courses with that particular professor.

Professors

Jonathan Abramowitz (231), Psychopathology, Prevention, and Treatment of Anxiety and Related Problems, Especially Obsessive-Compulsive Disorder

Sara Algoe (243), Role of Emotions in Social Interactions, Cumulative Influence of Positive Emotions

Jennifer Arnold (221), Psychological Processes Underlying Language Production and Comprehension in Both Adults and Children

Anna Bardone-Cone (239), Etiology and Maintenance of Bulimia Nervosa with Particular Interests in the Roles of Perfectionism, Self-Efficacy, and Stress; Sociocultural Factors (Race/Ethnicity, Family, Media) in Relation to Body Image and Eating Disorders; Defining "Recovery" from an Eating Disorder

Donald H. Baucom (104), Couple Therapy, Individual Psychopathology, and Couple Functioning; Health Concerns in a Couple/Family Context

Daniel Bauer (224), Structural Equation Models, Multilevel Models, Mixture Models, Analysis of Change

Charlotte Boettiger (234), Cognitive Neuroscience of Addiction, Executive Function, Functional Neuroimaging, Behavioral Pharmacology, Brain Mechanisms of Substance Abuse Treatments, Modulation of Decision Making by Genetics, Hormones, and Late Adolescent Development

Kenneth Bollen (270), Structural Equation Models, Longitudinal Methods, Latent Curve Models

Regina M. Carelli (187), Neurobiology of Reward, Drug Abuse, Behavioral Neurophysiology

Shauna Cooper (272), Cultural and Contextual Factors that Contribute to Positive Youth Development, African American Adolescents and Families

Patrick J. Curran (195), Structural Equation Modeling, Longitudinal Data Analysis, High-Risk Adolescent Development

Stacey Daughters (263), Addictive Disorders, Etiologic Predictors of Disorder Onset, and Predictors of Treatment Failure or Relapse; Distress Tolerance as an Individual Predictor

Barbara Fredrickson (229), Emotions; Positive Emotions; Social, Cognitive, and Physical Effects of Pleasant Emotional States; Flourishing Mental Health

Karen M. Gil (181), Health Psychology, Chronic Illness, Stress and Coping, Pain Management, Cancer Survivorship

Kelly Giovanello (232), Cognitive Neuroscience of Human Learning and Memory; Behavioral, Neuropsychological, and Functional Neuroimaging Studies of Relational Memory

Peter C. Gordon (180), Psychology of Language, Cognitive Neuroscience

Kurt Gray (235), Moral Psychology and Mind Perception, Structure of Morality, Emotional Experiences Relative to the Intentions of Others

Joseph B. Hopfinger (198), Neural Mechanisms of Visual Attention; Electrophysiological, Neuroimaging, and Eye-Tracking Studies of Attentional Control, Effects of Memory on Attention

Andrea M. Hussong (188), Adolescent Substance Use; Models of Peer, Family, and Affective Risk

Deborah Jones (223), Family Transmission of Mental and Physical Health in Underserved and At-Risk Families and the Development and Implementation of Family-Based Prevention and Intervention Programs for These Groups

Kristen Lindquist (240), Emotions and Affective Neuroscience, Basis of Human Emotion

Donald T. Lysle (155), Neuroimmunology, Neurobiology of Drug Abuse, Evolutionary Theory

Neil Mulligan (211), Cognitive Psychology, Human Memory, Implicit vs. Explicit Memory, Episodic Memory, Attention and Memory

Abigail T. Panter (144), Evaluation, Measurement, Advanced Quantitative Methods, Survey Methodology, Personality, Educational Diversity in Higher Education

Keith Payne (226), Social Cognition, Stereotyping, Prejudice, Emotions

David L. Penn (196), Social Cognition and Social Impairment in Schizophrenia, Stigma, Cognitive-Behavior Therapy for Severe Mental Illness

Mitch Prinstein (222), Developmental Psychopathology, Interpersonal Models of Adolescent Depression and Suicide, Peer Contagion of Health Risk Behaviors

Paschal Sheeran (267), Self-Regulation; How People Direct Their Own Thoughts, Feelings, and Behaviors to Achieve Their Goals

Eva Telzer (257), Adolescent Brain Development, Prosocial and Antisocial Behaviors, Family and Peer Relationships, and Long-Term Psychological Well-Being

Todd Thiele (203), Neurobiology and Genetics of Alcoholism, Conditioned Taste Aversion Learning, Food Intake and Body Weight Regulation

Eric Youngstrom (230), Bipolar Disorder across the Life Cycle, Emotions, Clinical Assessment, Developmental Psychopathology

Associate Professors

Carol Cheatham (199), Nutrition Individuality and Its Effects on the Development of Cognitive and Social Behaviors

Jessica Cohen (256), Functional Brain Network Interactions and Reconfigurations When Confronted With Charging Cognitive Demands

Sylvia Fitting (269), Drug Abuse and HIV-1 Comorbidity, Determining the Cellular, Structural, and Molecular Mechanisms Underlying Opioid Interaction with NeuroAIDS

Kathleen Gates (265), Development and Application of Advanced Statistical Models for the Analysis of Individual-Level Human Behavior and Processing, Novel Methodologies for Detecting Signal from Noise in Time-Series Functional MRI Data
Michael Hallquist (017), Borderline Personality Disorder, Personality Pathology, Computational Reinforcement Learning, Decision Neuroscience, Brain Development
Keely Muscatell (273), Social Experiences Influencing Physical Health and Emotional Well-Being, Incorporating Techniques from Social Neuroscience and Psychoneuroimmunology
Kathryn Reissner (266), Modifications of Cellular Dynamics and Synaptic Strength and Control of Behavior, Brain Changes Stemming from Chronic Exposure to Drugs of Abuse
Margaret Sheridan (271), Neural Mechanisms, Attention-Deficit and Hyperactivity Disorder in Early Childhood, Typical and Atypical Development of Prefrontal Cortex

Assistant Professors

Dan Christoffel (242), Circuit Mechanisms of Consummatory and Reward Behaviors, Experience-Dependent Plasticity, Physiology, Stress
Oscar Gonzalez (204), Statistical Mediation, Machine Learning/Data Mining, and Psychometrics
Annie Maheux (196), Sociocultural Influences on Adolescent Development; Intersection of Digital Technologies with Gender, Racial/Ethnic, and Sexual Identity
Dalal Safa (142), Antecedents and Consequents of Bicultural Identities and Competencies, Culture and Youth Development, Immigrant Adaptation, and Multiculturalism

Clinical Professors

Jennifer Kirby (214), Couple Therapy, Individual Psychopathology, and Couple Functioning; Health Concerns in a Couple/Family Context
Jenn Youngstrom (233), Empirically Supported Treatments and Effectiveness Research with Children and Adolescents, Transporting Treatments into the Community, Assessment, Treatment of Childhood Mood Disorders, Supervision and Training

Professors Emeriti

Elliot Cramer
David A. Eckerman
Samuel Fillenbaum
Mark Hollins
Chester A. Insko
Beth E. Kurtz-Costes
Robert C. MacCallum
David Penn
Paul Shinkman
David Thissen
Vaida D. Thompson
Erica Wise

PSYC

Advanced Undergraduate and Graduate-level Courses

PSYC 404. Clinical Psychopharmacology. 3 Credits.
This course will investigate the pharmacological effects and the clinical efficacy of drugs used to treat behavior disorders.

Rules & Requirements
Requisites: Prerequisite, PSYC 101.
Grading Status: Letter grade.

PSYC 430. Human Memory. 3 Credits.
This course explores classic and current issues in the study of human memory. Topics include working memory, encoding and retrieval processes, implicit memory, reconstructive processes in memory, eyewitness memory, developmental changes in memory, neuropsychology and neuroscience of memory and memory disorders, memory improvement, and the repressed/recovered memory controversy.

Rules & Requirements
Requisites: Prerequisites, PSYC 101, and 222 or 230.
Grading Status: Letter grade.

PSYC 432. Psychology of Language. 3 Credits.
Recommended preparation, PSYC 230 or LING 101 or LING 400. This course examines the mental representations and cognitive processes that underlie the human ability to use language. Covers what people know about language, how they process it, and how people make inferences about the speaker's meaning based on context. Recent work in experimental psycholinguistics is discussed.

Rules & Requirements
Requisites: Prerequisite, PSYC 101.
Grading Status: Letter grade.

PSYC 433. Behavioral Decision Theory. 3 Credits.
Simple mathematical and psychological models of judgment and choice, and related experiments, are treated, as are applications to real world problems in medical, environmental, policy, business, and related domains.

Rules & Requirements
Requisites: Prerequisite, PSYC 101.
Grading Status: Letter grade.

PSYC 435. Gender and Pronouns. 3 Credits.
This course offers an inside look at pronouns from an interdisciplinary perspective. From a cognitive perspective, we examine major models of the role that pronouns play, and the mental processes involved in using them. From a social perspective, we examine the role pronouns play in marking gender identity, and how both language usage and gender concepts are currently in flux. Students also learn about research methods and conduct a novel empirical study.

Rules & Requirements
Requisites: Prerequisite, PSYC 101.
Grading Status: Letter grade.

PSYC 438. Research Topics in the Psychology of Language. 3 Credits.
Examines the cognitive mechanisms behind language comprehension, focusing on how we make predictions about the speaker's meaning, based on context, background, gestures, and other cues. In this course-based undergraduate research experience (CURE), groups of students generate novel research questions, perform their own research experiments, and present the results in spoken and written format.

Rules & Requirements

IDEAs in Action Gen Ed: FC-LAB, RESEARCH.
Requisites: Prerequisites, PSYC 101; Recommended: PSYC 270 and any course in linguistics (PSYC 432, any LING course, or any course with a substantial linguistics component).
Grading Status: Letter grade.

PSYC 463. Development of Social Behavior and Personality. 3 Credits.
Developmental processes during early childhood as these relate to social behavior and personality.

Rules & Requirements
Requisites: Prerequisites, PSYC 101 and either PSYC 210 or 215.
Grading Status: Letter grade.

PSYC 467. The Development of Black Children. 3 Credits.
PSYC 210 or 215 recommended. A survey of the literature on the development of black children. Topics include peer and social relations, self-esteem, identity development, cognitive development, school achievement, parenting, family management, and neighborhood influences.

Rules & Requirements
Requisites: Prerequisites, PSYC 101 and 250.
Grading Status: Letter grade.

PSYC 468. Family as a Context for Development. 3 Credits.
Explores how the family influences children's development. Topics include family theories, genetics, family structure (e.g., single parents, working mothers, divorce), discipline, parent behavior and values and beliefs, fathers and ethnic diversity.

Rules & Requirements
Requisites: Prerequisites, PSYC 101, 250, and either PSYC 210 or 215.
Grading Status: Letter grade.

PSYC 469. Evolution and Development of Biobehavioral Systems. 3 Credits.
Examines the evolution and development of behavior patterns and their physiological substrates.

Rules & Requirements
Requisites: Prerequisites, BIOL 101 and PSYC 101, 210, or 215.
Grading Status: Letter grade.

PSYC 471. The Study of Adolescent Issues and Development. 3 Credits.
The developmental period of adolescence is studied from a multidisciplinary perspective. The course will distinguish among early, middle, and late adolescence and will cover several theoretical perspectives.

Rules & Requirements
Requisites: Prerequisites, PSYC 101, 250, and either PSYC 210 or 215.
Grading Status: Letter grade.

PSYC 473. Gender and Development. 3 Credits.
This course examines the role of gender in child and adolescent psychosocial development, with an emphasis on research methods in developmental psychology. Topics include socializing agents of gender development (e.g., parents, peers, media); conceptions of gender, masculinity, and femininity; experiences of youth at different intersections of gender and other identities (e.g., race/ethnicity, sexual identity); and the influence of gendered social roles in developmental outcomes (e.g., preferences and traits, academic outcomes, sexual behavior, violence).

Rules & Requirements
Requisites: Prerequisites, PSYC 101, and PSYC 210 or PSYC 270.
Grading Status: Letter grade.

PSYC 474. Digital Mental Health. 3 Credits.
This course will provide an overview of the use of digital technologies to increase opportunities for training in, access to, and use of evidence-based mental health services. Coverage will include the current status of and future directions in research, innovations in service delivery, and policy implications. Special attention will be given to the evolution of the field, the potential costs and benefits, and the promise to address health disparities in particular.

Rules & Requirements
Requisites: Prerequisite, PSYC 101.
Grading Status: Letter grade.

PSYC 477. Society and the Developing Brain. 3 Credits.
Students will develop an integrated understanding of the cognitive neuroscience of brain development and the context of development. This course will provide an overview of principles of developmental cognitive neuroscience and will examine how societal structures shape the intimate environments of the family, school systems, and community contexts.

Rules & Requirements
Requisites: Prerequisite, NSCI 175 or PSYC 101.
Grading Status: Letter grade.

PSYC 490. Current Topics in Psychology. 3 Credits.
Various special areas of psychological study, offered as needed. Course may be repeated for credit. Honors version available.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 2 total completions.
Grading Status: Letter grade.

PSYC 493. Internship in Psychology. 3 Credits.
Required preparation, minimum of two other psychology courses and junior/senior standing. Designed for highly motivated psychology majors interested in exploring professional opportunities in psychology-related areas. Students complete hands-on internships at community sites for approximately 120 hours across the semester. Students also attend a weekly one-hour class with other interns.

Rules & Requirements

IDEAs in Action Gen Ed: HI-INTERN.
Requisites: Prerequisite, PSYC 101.
Grading Status: Letter grade.

PSYC 500. Developmental Psychopathology. 3 Credits.
A survey of theories bearing on atypical development and disordered behavior, and an examination of major child and adolescent behavior problems and clinical syndromes.

Rules & Requirements
Requisites: Prerequisites, PSYC 101, 245, and 250.
Grading Status: Letter grade.

PSYC 501. Theoretical, Empirical Perspectives on Personality. 3 Credits.
An in-depth coverage of the traditional clinically based personality theories of the early 20th century contrasted with more recent empirically based perspectives.

Rules & Requirements
Requisites: Prerequisite, PSYC 101.
Grading Status: Letter grade.

PSYC 502. Psychology of Adulthood and Aging. 3 Credits.
A developmental approach to the study of adulthood, from young adulthood through death. Topics include adult issues in personality, family dynamics, work, leisure and retirement, biological and intellectual aspects of aging, dying, and bereavement.

Rules & Requirements
Requisites: Prerequisites, PSYC 101 and 250.
Grading Status: Letter grade.

PSYC 503. African American Psychology. 3 Credits.
This course examines race and culture in the psychological processes and behavior of African Americans.

Rules & Requirements
Requisites: Prerequisite, PSYC 101.
Grading Status: Letter grade.

PSYC 504. Health Psychology. 3 Credits.
An in-depth coverage of psychological, biological, and social factors that may be involved with health.

Rules & Requirements
Requisites: Prerequisites, PSYC 101 and 245.
Grading Status: Letter grade.

PSYC 505. Sports and Performance Psychology. 3 Credits.
This course examines the mental health and psychological factors that impact the performance of athletes. Furthermore, the mental health of sports fans, along with the physiological and psychological impact of being a spectator will be examined.

Rules & Requirements
Requisites: Prerequisite, PSYC 101, 242 or 245.
Grading Status: Letter grade.

PSYC 508. Psychotherapy: Practice and Research. 3 Credits.
This is a course on the treatment of psychological problems through the application of interventions grounded in psychological theory and focusing on behavior or mental processes. Students will become familiar with the more popular schools of psychotherapy, including their historical context, techniques, theoretical underpinnings, and research support.

Rules & Requirements
Requisites: Prerequisite, PSYC 101.
Grading Status: Letter grade.

PSYC 514. Mania and Depression. 3 Credits.
The social, developmental, and biological contributions to mania and depression are examined, as well as the impact of these moods on the brain, creativity, relationships, quality of life, and health.

Rules & Requirements
Requisites: Prerequisites, PSYC 101 and 245.
Grading Status: Letter grade.

PSYC 517. Addiction. 3 Credits.
PSYC 270 (Research Methods) and 245 (Abnormal Psychology) are encouraged but not required. This is an advanced seminar for undergraduate students that provides a comprehensive overview of the scientific study of addiction. This course will focus on the etiology and treatment of addiction to mood altering substances such as alcohol and illicit drugs, although many of the principles reviewed are applicable to behavioral addictions (e.g., gambling). Honors version available.

Rules & Requirements
Requisites: Prerequisite, PSYC 101.
Grading Status: Letter grade.

PSYC 518H. Creating Digital Tools for Positive Youth Development. 3 Credits.
In this upper-level course, students will learn about the interdisciplinary field of Positive Youth Development and create a digital tool to improve health, well-being, or developmental outcomes for youth through an intensive semester-long project.

Rules & Requirements
IDEAs in Action Gen Ed: FC-CREATE.
Requisites: Prerequisite, PSYC 250.
Grading Status: Letter grade.

PSYC 525. Psychological Archival Data Science. 3 Credits.
This course addresses techniques in answering new questions with existing data. Students will learn about data from multiple perspectives: different data source and types, intended audiences, and visualization, analysis, and presentation formats. This will make students more savvy consumers as well as producers of data.

Rules & Requirements
Requisites: Pre- or corequisites, PSYC 270 and 245.
Grading Status: Letter grade.

PSYC 528. Clinical Research: Design, Analyze, Disseminate. 3 Credits.
Students work with a community partner to identify a research question related to our understanding and treatment of psychological health. Using an iterative scientific method, students collaborate to develop hypotheses, to prepare and analyze data, to propose interpretations of data, and to present their results to the public.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Requisites: Prerequisites, PSYC 101 and either PSYC 210 or 215; Pre- or corequisite, PSYC 270.
Grading Status: Letter grade.

PSYC 530. Design and Interpretation of Psychological Research. 3 Credits.
Emphasis on the methodological principles underlying experimental and correlational research. Interaction of theory and practice in the design and interpretation of psychological studies. This is a course-based undergraduate research experience (CURE).

Rules & Requirements
Requisites: Prerequisites, PSYC 101 and 270.
Grading Status: Letter grade.

PSYC 531. Tests and Measurement. 3 Credits.
Basic psychometric theory underlying test construction and utilization. Detailed study of issues and instruments used in assessing intellectual functioning, educational progress, personality, and personnel selection.

Rules & Requirements
Requisites: Prerequisites, PSYC 101, and either PSYC 210 or 215.
Grading Status: Letter grade.

PSYC 532. Quantitative Psychology. 3 Credits.
This course examines the science of quantitative psychology. Topics include the analysis of data, the design of questionnaires, and the assessment of psychological attributes, among others. Honors version available.

Rules & Requirements
Requisites: Prerequisite, PSYC 210, 215, SOCI 252, or STOR 155.
Grading Status: Letter grade.

PSYC 533. The General Linear Model in Psychology. 3 Credits.
Consideration of multiple regression and the general linear model in psychological research, including hypothesis testing, model formulation, and the analysis of observational and experimental data. Honors version available.

Rules & Requirements
Requisites: Prerequisite, ECON 400, PSYC 210, PSYC 215, SOCI 252 or STOR 155.
Grading Status: Letter grade.

PSYC 534. Introduction to Computational Statistics. 3 Credits.
Introduction to programming and the implementation of statistical techniques. Topics include data manipulation, graphical procedures, writing loops and functions, data simulation, use of regular expressions, and scraping data from the web.

Rules & Requirements
Requisites: Prerequisite, PSYC 210, 215, SOCI 252, or STOR 155.
Grading Status: Letter grade.

PSYC 535. Programming for Psychologists: Computational Tools for Psychological Research. 3 Credits.
In this course, we will cover fundamental coding practices and computational tools used frequently in psychology research. We will go over the basics of coding, how to present computer-based experiments, how to keep a digital lab notebook, univariate data analyses, and visualization through programming. Through this process, students will have the opportunity to develop and run a simple experiment from start to finish.

Rules & Requirements
IDEAs in Action Gen Ed: FC-QUANT, FC-LAB, RESEARCH.
Requisites: Prerequisite, PSYC 101; Pre- or corequisite, PSYC 210.
Grading Status: Letter grade.

PSYC 550. Statistical Models in Psychology: Theory and Application I. 4 Credits.
This course is designed for advanced undergraduate students and entering graduate students and provides an exploration of the theory and principles underlying the application of statistical models in psychological research. Topics include study design, model building, estimation and inference. Students will learn to visualize and manage data and fit models within the statistical software program R.

Rules & Requirements
Requisites: Prerequisite, PSYC 210 or permission of instructor.
Grading Status: Letter grade.

PSYC 559. Applied Machine Learning in Psychology. 3 Credits.
As opposed to hypothesis-driven data analysis, machine learning takes an exploratory and predictive approach to data analysis. This course introduces machine learning approaches in psychology to identify important variables for prediction and uncover complex patterns in datasets, such as nonlinearity, interactions, or clusters. Classes include theoretical lectures and hands-on examples.

Rules & Requirements
Requisites: Prerequisites, PSYC 101, and either PSYC 210 or 215.
Grading Status: Letter grade.

PSYC 562. Psychology of Race and Racism. 3 Credits.
This course offers an overview of research investigating the psychological underpinnings and impacts of racialization, racism, and racial inequality. It will center research in social psychology, but will also feature work from other areas of psychology (e.g., developmental), as well as other social science disciplines (e.g., sociology, political science).

Rules & Requirements
Requisites: Prerequisites, PSYC 101, and either PSYC 210 or 215.
Grading Status: Letter grade.

PSYC 564. Interpersonal Relationships. 3 Credits.
PSYC 270 Recommended. This advanced course will comprehensively cover the social psychological literature on normally-developing interpersonal relationships, with implications for relationships with family, friends, co-workers, and romantic partners. This is a research-intensive course with a major aspect involving an independent research project to facilitate learning by doing.

Rules & Requirements
Requisites: Prerequisites, PSYC 101, 260, and either PSYC 210 or 215.
Grading Status: Letter grade.

PSYC 565. Stereotyping, Prejudice, and Discrimination. 3 Credits.
PSYC 270 recommended. Examines the determinants, functions, processes, and consequences of stereotyping, prejudice, and discrimination. Prospects for change are considered. Class presentations and participation required.

Rules & Requirements
Requisites: Prerequisites, PSYC 101, 260, and either PSYC 210 or 215.
Grading Status: Letter grade.

PSYC 566. Attitude Change. 3 Credits.
A detailed consideration of the theoretical issues in attitude and belief change.

Rules & Requirements
Requisites: Prerequisites, PSYC 101, 260, and either 210 or 215.
Grading Status: Letter grade.

PSYC 569. Practical Wisdom from Advanced Social Psychology. 3 Credits.
Surveys cutting-edge research across the field of social psychology and how it matters for everyday life. Topics include morality, mind perception, judgment and decision making, happiness, affective forecasting, emotion, relationships, negotiation, personality, free will, stress/health, and religion. Clear communication of research also emphasized through figures, presentations, and papers.

Rules & Requirements
Requisites: Prerequisites, PSYC 101, 260, and 270.
Grading Status: Letter grade.

PSYC 570. The Social Psychology of Self-Regulation. 3 Credits.
PSYC 270 recommended. An intensive review of self-regulation theory and research, focusing on the cognitive, motivational, and affective processes involved in goal commitment, monitoring, and overriding behavioral responses.

Rules & Requirements
Requisites: Prerequisites, PSYC 101, 260, and either PSYC 210 or 215.
Grading Status: Letter grade.

PSYC 571. Social Neuroscience. 3 Credits.
Social neuroscience is the study of how social processes and experiences are represented in and influence the structure and function of the brain. This course will focus primarily on functional magnetic resonance imaging (fMRI) studies of humans, though we will also discuss other brain imaging techniques and patient studies. Previously offered as NSCI 571.

Rules & Requirements
Requisites: Prerequisite, PSYC 220 or NSCI 175, PSYC 260 recommended.
Grading Status: Letter grade.

PSYC 572. Theoretical and Empirical Perspectives on Sex and Gender Differences. 3 Credits.
An in-depth examination of psychological research and theory pertaining to the influence of gender on the lives of men and women. In general, emphasis will be placed on understanding gender as a social psychological construct.

Rules & Requirements
Requisites: Prerequisites, PSYC 101 and 260.
Grading Status: Letter grade.

PSYC 573. Psychology of Women and Gender. 3 Credits.
This course will discuss theories, methods, and empirical research findings on the physical, cognitive, emotional, and social aspects of the psychology of women, as well as topics such as feminist psychology, intersectionality, bias in psychological research, sexual orientation, sexuality, lifespan development, work, and health. Men and masculinity, the psychology of transgender persons, and a critique of the gender binary are also discussed.

Rules & Requirements
IDEAs in Action Gen Ed: FC-POWER.
Requisites: Prerequisite, PSYC 101 or WGST 101.
Grading Status: Letter grade.
Same as: WGST 573.

PSYC 574. Science of Moral Understanding. 3 Credits.
Each of us is committed to our moral values and often struggle to understand those who with different beliefs. This course will focus on difficult moral disagreements (e.g., abortion, euthanasia), using social psychology and related disciplines to reveal the basis of our moral judgments, the drivers of moral divides, and how best to bridge them. We will cover both theory and application, and practice having constructive dialogue and civil disagreement to forge moral understanding.

Rules & Requirements
Requisites: Prerequisites, PSYC 101, and 260.
Grading Status: Letter grade.

PSYC 575. Positive Psychology. 3 Credits.
This course examines positive psychology, also called the science of thriving. One basic premise of positive psychology is that thriving individuals and thriving communities require the presence and interplay of positive emotions, positive relationships, and positive meaning. A second basic premise is that thriving does not result simply by curing pathology and eliminating problems. Rather, thriving requires building and capitalizing on human strengths and capacities. Students will apply course concepts in their everyday lives.

Rules & Requirements
Requisites: Prerequisite, PSYC 101.
Grading Status: Letter grade.

PSYC 585. Psychology of Music. 3 Credits.
Music has the ability to influence our emotions, spark creativity, and influence relationships. But what makes music so universal? We will cover topics such as how music makes us happy vs. sad, can music be used for therapy, and does music help with memory through the lens of psychological science.

Rules & Requirements
Requisites: Prerequisite, PSYC 101.
Grading Status: Letter grade.

PSYC 601. Psychology and Law. 3 Credits.
Examines the legal system from the perspective of psychology methods and research, with a focus on criminal law. Discusses dilemmas within the law and between the legal system and psychology.

Rules & Requirements
Requisites: Prerequisites, PSYC 101, and either PSYC 210 or PSYC 215.
Grading Status: Letter grade.

PSYC 602. Evolutionary Psychology. 3 Credits.
Major topics of general psychology are examined from an evolutionary perspective with an emphasis on empirical studies asking why much current human behavior and experience would have been adaptive for our early ancestors.

Rules & Requirements
Requisites: Prerequisite, PSYC 101.
Grading Status: Letter grade.

PSYC 693H. Honors in Psychology I. 3 Credits.
To be taken in the fall of the last year of studies as the first course in the two-semester honors sequence. Students conduct research under the direction of a faculty advisor and receive classroom instruction in research-related topics.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Requisites: Prerequisites, A cumulative GPA of 3.3, at least one semester of PSYC/NSCI 395 or the approved equivalent, and acceptance into the Psychology or Neuroscience Senior Honors Program; PSYC/NSCI 693H must be taken in the first semester of the last year of studies.
Grading Status: Letter grade.

PSYC 694H. Honors in Psychology II. 3 Credits.
This course comprises the second semester in the two-semester sequence of Senior Honors in Psychology/Neuroscience. There are two components to the course: research that you will conduct under the direction of your faculty thesis advisor, and this class, which you will attend with the other senior honors students to learn about research-related topics and receive consultations with the instructor and your classmates. Admission to the psychology honors program required.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Requisites: Prerequisites, A cumulative GPA of 3.3, completion of PSYC/NSCI 693H, at least one semester of PSYC/NSCI 395 or the approved equivalent, and acceptance into the Psychology or Neuroscience Senior Honors Program; PSYC/NSCI 694H must be taken in the second semester of the last year of studies.
Grading Status: Letter grade.

Graduate-level Courses

PSYC 701. Brain & Behavior I. 3 Credits.
Graduate standing required. A survey of psychological and biological approaches to the study of sensory and perceptual information processing, with an emphasis on touch and pain.

Rules & Requirements
Grading Status: Letter grade.
Same as: NBIO 701A.

PSYC 702. Brain & Behavior II. 3 Credits.
A survey of psychological and biological approaches to the study of basic learning and higher integrative processing.

Rules & Requirements
Grading Status: Letter grade.
Same as: NBIO 702A.

PSYC 703. Advanced Biological Psychology: Central Nervous System. 3 Credits.
Each fall one special topic will be covered in depth (e.g., neural bases of memory storage, homeostasis, and perception). Format includes lectures and seminar meetings with student presentations.

Rules & Requirements
Requisites: Prerequisite, PSYC 402.
Grading Status: Letter grade.
Same as: NBIO 703.

PSYC 704. Applications of Experimental Psychology to Health Research. 3 Credits.
This course provides a critical analysis of interdisciplinary research within experimental psychology, including such topics as psychopharmacology, psychoneuroimmunology, psychophysiology, and animal models of brain/behavior disorders.

Rules & Requirements
Grading Status: Letter grade.
Same as: NBIO 704.

PSYC 705. Behavioral Pharmacology. 3 Credits.
Basic principles of pharmacology and behavior analysis are considered in relation to drugs that affect the central nervous system.

Rules & Requirements
Requisites: Prerequisite, PSYC 404; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Same as: NBIO 705, PHCO 705.

PSYC 707. Clinical Psychopharmacology. 3 Credits.
Examinations of the clinical efficacy, side effects, and neuropharmacological actions of drugs used in the treatment of behavioral disorders. Additional topics include the behavioral and neuropharmacological actions of drugs of abuse.

Rules & Requirements
Grading Status: Letter grade.

PSYC 708. Research Design and Statistics in Neuroscience. 3 Credits.
Limited to graduate students in psychology, neuroscience, and neurobiology. Experimental design, hypothesis testing, power analyses, ANOVAs, regression, correlations. Hands on data analysis with you being able to use your own data sets. Analyses will be conducted with SPSS and Prism. Permission of the instructor.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.
Same as: NBIO 708.

PSYC 709. Seminar in Theoretical-Experimental Psychology. 1-3 Credits.
Lectures, discussions, and seminar presentations on current topics in experimental psychology.

Rules & Requirements
Grading Status: Letter grade.

PSYC 719. Seminar in Experimental Health Psychology. 3 Credits.
An in-depth treatment of research topics in behavioral and biological aspects of health psychology.

Rules & Requirements
Grading Status: Letter grade.

PSYC 720. Research Seminar in Addiction Science I. 3 Credits.
Graduate standing in psychology required. Students design and conduct a supervised research project and engage in critical discussion of research performed by other students and faculty.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PSYC 721. Research Seminar in Addiction Science II. 3 Credits.
Graduate standing in psychology required. Students design and conduct a supervised research project and engage in critical discussion of research performed by other students and faculty.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PSYC 738. Neurons to Neighborhoods: Contributions to Neurobiological Development and Behavioral Consequences. 3 Credits.
This course provides an overview of what the field of human neuroscience has revealed about neural structure and function with an eye to examining individual differences. Current knowledge about the neural mechanisms supporting cognitive and emotional function will be investigated in depth through chapters, review articles, and empirical studies.

Rules & Requirements
Grading Status: Letter grade.

PSYC 739. Cognitive Neuroscience. 3 Credits.
This course will highlight recent research regarding the cognitive and neural architecture of human memory or attention, with the emphasis placed on studies using cognitive neuroscience methods (e.g. fMRI, EPRs).

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PSYC 740. Seminar in Cognitive Psychology. 3 Credits.
Permission of the instructor. Discussion and critical evaluation of various theories of thinking; theories of concept formation, problem solving, and reasoning.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PSYC 741. Professional Development for Careers in Research. 3 Credits.
Graduate standing required. This course covers research strategies, research collaboration, giving talks, writing review papers, writing research reports, the peer-review editorial process, the grant-proposal process, the academic job search process, and nonacademic career.

Rules & Requirements
Grading Status: Letter grade.

PSYC 742. Attention. 3 Credits.
Graduate standing in psychology required. This course will introduce the major issues in attention research and highlight recent work examining the neural mechanisms of attention and its interactions with other cognitive and social-cognitive processes.

Rules & Requirements
Grading Status: Letter grade.

PSYC 743. Cognitive Aging. 3 Credits.
This course examines theories of human cognitive aging and how these theories seek to explain age-group differences in various domains of cognitive functioning (e.g., episodic memory, language, judgment).

Rules & Requirements
Grading Status: Letter grade.

PSYC 744. Psycholinguistics. 3 Credits.
Graduate standing in psychology required. This seminar addresses the mental processes underlying human's ability to use language at a number of levels. Specific topics vary.

Rules & Requirements
Grading Status: Letter grade.

PSYC 746. Seminar in Cognitive Psychology - Human Memory. 3 Credits.
Selective overview of topics in the study of human memory. Course will examine the findings from laboratory research to gain a better understanding of memory structure and organization.

Rules & Requirements
Grading Status: Letter grade.

PSYC 750. Research Seminar in Cognitive Psychology. 3 Credits.
Graduate standing in psychology required. Students conduct a supervised research project in cognitive psychology, and participate in discussion of current research and related ethical and methodological issues.

Rules & Requirements
Grading Status: Letter grade.

PSYC 751. Research Seminar in Cognitive Psychology. 3 Credits.
Graduate standing in psychology required. Students conduct a supervised research project in cognitive psychology, and participate in discussion of current research and related ethical and methodological issues.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PSYC 760. Advanced Cognitive Development. 3 Credits.
This course covers the development of attention, perception, learning, memory, thinking, and language, beginning in infancy and covering the life-span from both information processing and Baldwin-Piaget approaches.

Rules & Requirements
Grading Status: Letter grade.

PSYC 761. Advanced Social Development. 3 Credits.
Current thinking and research relevant to social, emotional, and personality development across the life span. Topics include parent-child interaction, peer relations, aggression, competence, sex roles, and gender differences.

Rules & Requirements
Grading Status: Letter grade.

PSYC 762. Developmental Psychology: Methodology I. 3 Credits.
Philosophical and sociological perspectives on research in developmental psychology, with specific applications to ongoing projects. As announced.

Rules & Requirements
Grading Status: Letter grade.

PSYC 763. Ethics and Professional Issues in Developmental Psychology. 3 Credits.
The purpose of this course is to provide an introductory knowledge base of ethical and professional issues that guide the field of Psychology, with specific focus on the field of Developmental Psychology.

Rules & Requirements
Grading Status: Letter grade.

PSYC 766. Developmental Psychobiology. 3 Credits.
Provides an introduction to psychobiological research, focusing on early development in animals. Topics include embryology, developmental neurobiology, the development of sensory and communication systems, and social behavior. As announced.

Rules & Requirements
Grading Status: Letter grade.

PSYC 767. Advanced Family Theory and Research. 3 Credits.
Research related to family processes, especially regarding the developmental consequences of varying family environments on children. Topics include divorce, cognitive development, single parents, parental employment, discipline, cultural context.

Rules & Requirements
Grading Status: Letter grade.

PSYC 768. Seminar in Developmental Psychology. 3 Credits.
Permission of the instructor. Intensive study of selected topics in developmental psychology.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

PSYC 769. Development of the Social Brain. 3 Credits.
The goal of this course is to understand the neural systems that support development from childhood to adulthood by drawing on theories and methods from developmental and social psychology as well as cognitive neuroscience. We will draw upon research examining the brain bases underlying the development of various social behaviors including social relationships, social stress, antisocial behavior, self-perception, and social influence.

Rules & Requirements
Grading Status: Letter grade.

PSYC 780. Developmental Psychology Forum. 1 Credits.
Permission of the instructor. Presentations of research by faculty, students, and visitors; discussion of professional topics.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PSYC 781. Proseminar in Developmental Science. 3 Credits.
Intensive study of selected topics in human development that are being explored by members of the Carolina Consortium on Human Development staff. Permission of the instructor.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PSYC 790. History of Psychology. 3 Credits.
Review of the history of major areas of psychology, with special emphasis on the conceptual and methodological underpinnings of the discipline.

Rules & Requirements
Grading Status: Letter grade.

PSYC 791. Special Readings in Psychology. 3 Credits.
Permission of the instructor. Intended for advanced graduate students.

Rules & Requirements
Grading Status: Letter grade.

PSYC 792. Professional Problems in Psychology. 1 Credits.
Permission of the instructor. Consideration of problems facing academic psychologists.

Rules & Requirements
Grading Status: Letter grade.

PSYC 793. Laboratory in College Teaching. 1 Credits.
Specific training in presentational and interpersonal skills needed by college teachers, such as planning, lecturing, discussing, motivating, and evaluating.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PSYC 795. Functional Magnetic Resonance Imaging. 3 Credits.
This course provides a comprehensive and rigorous introduction to the technique of functional magnetic resonance imaging (fMRI). Students will learn the basic physics underlying MRI; the biological principles of fMRI, the principles of experimental design, data analysis, the use of available software packages, and special considerations for patient research.

Rules & Requirements
Grading Status: Letter grade.

PSYC 796. Seminar in Biomedical Imaging Science. 3 Credits.
This course serves as a gateway course to the Graduate Certificate in Biomedical Imaging Science. This course offers an introduction to the most common imaging modalities, including MR, CT, PET, SPECT, ultrasound, and optical imaging. Lectures include discussions of hardware, physics, as well as pre-clinical and clinical applications.

Rules & Requirements
Grading Status: Letter grade.
Same as: BMME 796.

PSYC 803. Advanced Clinical Science for Child and Adolescent Populations. 3 Credits.
This graduate-level course is intended to strengthen and extend materials covered in the PSYC 809: Introduction to Clinical Science course and is required of all clinical students in the child/family track.¿PSYC 803 sits at the intersection of theory, research, and practice and serves as an essential building block in an integrated sequence of coursework, research, and applied experiences that aim to empower clinical scientists to understand how behavioral and mental health problems develop and to apply an evidence-informed lens to improve well-being within and across systems through prevention and intervention.

Rules & Requirements
Requisites: Prerequisite, Graduate standing in the clinical psychology doctoral program or permission of instructor.
Grading Status: Letter grade.

PSYC 804. Advanced Clinical Science for Adult Populations. 3 Credits.
This course provides an advanced examination of adult psychopathology, integrating conceptual paradigms, assessment strategies, and evidence-based treatments. Students will critically evaluate diagnostic models, transdiagnostic approaches, and cultural influences on psychopathology while developing case conceptualization and treatment planning skills.

Rules & Requirements
Grading Status: Letter grade.

PSYC 806. Clinical Research Methods. 3 Credits.
Graduate status in clinical psychology required. Analysis of clinical and personality research in terms of their contribution to knowledge, their limitations, possibilities for their improvement, further research they suggest, etc. Preparation of individual research proposals for class presentation and critical evaluation. Three hours a week.

Rules & Requirements
Grading Status: Letter grade.

PSYC 807. Advanced Research Methods for Clinical Science. 3 Credits.
This is a graduate course for adult- and child/family-track students in the UNC-CH clinical psychology doctoral program and is intended to strengthen and extend material covered in the prerequisite: PSYC 762 Foundational Methods of Psychological Science or PSYC 806: Clinical Research Methods. The course complements the broader training objectives of the UNC-CH clinical psychology doctoral program, emphasizing advanced elements of design that impact testing of the etiology, maintenance, and treatment of psychopathology across the lifespan.

Rules & Requirements
Requisites: Prerequisite, PSYC 806 or PSYC 762.
Grading Status: Letter grade.

PSYC 809. Adult Psychopathology. 3 Credits.
First-year graduate status in clinical psychology required. The major forms of psychopathology are examined within a development framework.

Rules & Requirements
Grading Status: Letter grade.

PSYC 810. Developmental Psychopathology. 3 Credits.
First-year graduate status in clinical psychology required. The major forms of psychopathology are examined within a development framework.

Rules & Requirements
Grading Status: Letter grade.

PSYC 811. Adult Practicum. 3 Credits.
Second-year graduate status in clinical psychology required. Supervised experience in psychological assessment and psychotherapy. Six to eight laboratory hours a week.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PSYC 812. Child and Adolescent Practicum. 3 Credits.
Second-year graduate status in clinical psychology required. Supervised experience in psychological assessment and psychotherapy. Six to eight laboratory hours a week.

Rules & Requirements
Grading Status: Letter grade.

PSYC 813. Advanced Adult Assessment. 3 Credits.
Graduate standing in clinical psychology required. Consideration of how various forms of assessment data can be utilized in understanding the structure and dynamics of adult personalities; problems of differential diagnosis, brain damage, etc., are also considered. Two lecture and two laboratory hours a week.

Rules & Requirements
Grading Status: Letter grade.

PSYC 814. Assessment Across the Lifespan. 3 Credits.
Theory, research, and application of objective and projective techniques for behavioral, emotional, psychiatric, interpersonal, and social cognitive assessment of cases across the lifespan (e.g., child, adolescent, adult). Two lecture and two laboratory hours a week.

Rules & Requirements
Grading Status: Letter grade.

PSYC 815. Ethics and Practice in Clinical Psychology. 3 Credits.
Graduate standing in clinical psychology required. A survey and discussion of the ethical and legal issues that clinical psychologists confront in a variety of professional settings.

Rules & Requirements
Grading Status: Letter grade.

PSYC 817. Advanced Adult Practicum and Professional Ethics. 3 Credits.
Supervised clinical work in an area of particular interest to the student. Clinical activity is coordinated with reading and discussion of literature or professional ethics.

Rules & Requirements
Requisites: Prerequisites, PSYC 811 and 812.
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

PSYC 818. Advanced Child/Adolescent Practicum and Professional Ethics. 3 Credits.
Individualized clinical practicum for advanced doctoral students in clinical psychology. Supervised experience in psychotherapy, psychological assessment, and consultation. May be repeated for credit.

Rules & Requirements
Requisites: Prerequisite, PSYC 817.
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

PSYC 819. Foundations of Clinical Neuroscience. 3 Credits.
This course will survey contemporary neuroscience approaches to understanding mental illness, including mood, anxiety, and personality disorders, as well as addiction. We will also discuss the role of neurodevelopment and stress in the etiology of psychopathology. Students will become familiar with empirical studies encompassing animal models, computational models, and systems and molecular neuroscience. Finally, we will consider the tensions and synergies between psychological and neurobiological approaches to mental illness.

Rules & Requirements
Grading Status: Letter grade.

PSYC 821. Affective, Biological, and Cognitive Bases of Behavior and their Integration. 3 Credits.
Future psychologists can benefit from a graduate-level understanding of the broad affective, behavioral, and cognitive bases of behavior, and then by practicing integrating these fields. Students will master a broad overview of current thinking on: (A) affect, emotion, mood, and emotion regulation; (B) neural, physiological, anatomical, and genetic aspects of behavior; and (C) learning, memory, thought processes, and decision-making. They will then practice integrating these fields focusing on a topic of their choice.

Rules & Requirements
Requisites: Prerequisite, Graduate Standing.
Grading Status: Letter grade.

PSYC 822. Seminar in Clinical Psychology. 1-3 Credits.
Lectures, discussions, and seminar presentations on current topics in clinical psychology.

Rules & Requirements
Grading Status: Letter grade.

PSYC 823. Clinical Supervision and Consultation: Theory, Research, and Practice. 3 Credits.
This course will familiarize fourth year clinical psychology doctoral students with methods and models of clinical supervision and consultation in an ethical and multicultural context. Includes a didactic seminar component and an applied supervision training component. Restricted to fourth year doctoral students in clinical psychology.

Rules & Requirements
Repeat Rules: May be repeated for credit. 3 total credits. 1 total completions.
Grading Status: Letter grade.

PSYC 825. Advanced Clinical Practicum. 1-3 Credits.
Individualized clinical practicum for advanced doctoral students in clinical psychology, namely: supervised experience in psychotherapy, psychological assessment, and consultation. Practicum experience is paired with a seminar within the academic program of the clinical psychology doctoral program to discuss external community practicum experiences and relate these to academic coursework and earlier clinical training.

Rules & Requirements
Requisites: Prerequisite, PSYC 811 or PSYC 812.
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PSYC 827. Multiculturalism and Clinical Psychology. 3 Credits.
Graduate standing in psychology and permission of the instructor. The development and format of this course is guided by current "best practice" in multicultural education in emphasizing three overriding goals: awareness and changes in attitudes and beliefs.

Rules & Requirements
Grading Status: Letter grade.

PSYC 828. Child/Adolescent Assessment Practicum. 1 Credits.
Graduate standing in psychology and permission of the instructor. This course provides students with an opportunity to integrate their academic foundation in clinical psychology assessment knowledge skills, ethics, and values in an applied practice setting with diverse clients.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PSYC 829. Clinical Psychological Assessment. 3 Credits.
Introduction to the principles and practices of evidence-based assessment for clinical psychology.

Rules & Requirements
Grading Status: Letter grade.

PSYC 830. Statistical Methods in Psychology I. 4 Credits.
Required preparation, a course in introductory statistics. Data analysis, sampling, applied probability, elementary distribution theory, principles of statistical inference.

Rules & Requirements
Grading Status: Letter grade.

PSYC 831. Statistical Methods in Psychology II. 4 Credits.
Statistical estimation and hypothesis testing for linear models (ANOVA, ANCOVA, regression analysis); statistical models in the design and analysis of experiments.

Rules & Requirements
Requisites: Prerequisite, PSYC 830.
Grading Status: Letter grade.

PSYC 833. Intra-individual Analysis. 3 Credits.
This course is designed for graduate students seeking training in quantitative methods for analyzing a range of data often encountered in psychological and neural sciences studies where numerous observations are collected across time per individual. This data enables the possibility for intra-individual variability analysis (IVA), or how to quantitatively describe individuals' dynamic process.

Rules & Requirements
Requisites: Prerequisites, PSYC 830 and 831; Recommended preparation, structural equation modeling, and permission of instructor.
Grading Status: Letter grade.

PSYC 834. Machine Learning. 3 Credits.
This course is an introductory seminar on the theory and application of machine learning to data analysis. A lot of research in psychology has focused on hypothesis-driven, explanatory approaches to data analysis. Machine learning could supplement a researcher's analytic toolbox to explore patterns and assess the predictive value of various combinations of variables on an outcome.

Rules & Requirements
Requisites: Prerequisites, PSYC 830 and PSYC 831.
Grading Status: Letter grade.

PSYC 838. Regression Models with Categorical Dependent Variables. 3 Credits.
The goal of the course is to provide a firm foundation in the regression analysis of binary, ordinal, nominal, or count dependent variables. In addition, the course provides helpful background to those using other methods with categorical outcomes (e.g., item response theory, structural equation models). Students should have a solid background in OLS regression analysis and some familiarity with matrix notation.

Rules & Requirements
Grading Status: Letter grade.

PSYC 839. Quantitative Research Methods. 3 Credits.
Quantitative Research Methods explores the many dimensions of experimental and quasi-experimental design in the psychological sciences with a specific focus on topics that commonly arise in quantitative research. Exemplar topics include true- and quasi-experimental design, causal inference, sampling, randomization, self-selection, Monte Carlo computer simulation design, internal and external validity, and ethics.

Rules & Requirements
Requisites: Prerequisites, PSYC 830 and 831; Permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

PSYC 840. Computational Statistics. 3 Credits.
Current computational environments for data analysis and visualization are taught and used as a basis for understanding current (and creating new) methods of computational statistics and dynamic statistical graphics.

Rules & Requirements
Requisites: Prerequisite, PSYC 831; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

PSYC 842. Test Theory and Analysis. 3 Credits.
Survey of classical test theory and more recent developments in item analysis and test construction.

Rules & Requirements
Requisites: Prerequisite, PSYC 831.
Grading Status: Letter grade.

PSYC 843. Factor Analysis. 3 Credits.
Advanced topics in factor analytic models, multivariate correlational models, and analysis of covariance structures as applied in behavioral research.

Rules & Requirements
Requisites: Prerequisite, PSYC 831; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

PSYC 844. Structural Equation Modeling. 3 Credits.
Examination of a wide range of topics in covariance structure models, including their history, underlying theory, controversies, and practical use with major computer packages.

Rules & Requirements
Requisites: Prerequisite, PSYC 831; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

PSYC 845. Longitudinal Structural Equation Modeling. 3 Credits.
Latent curve modeling is a structural equations-based method for analyzing longitudinal data. Equal emphasis is placed on the statistical model and applications to real data.

Rules & Requirements
Grading Status: Letter grade.

PSYC 846. Multilevel Modeling. 3 Credits.
This course demonstrates how multilevel models (or hierarchical linear models) can be used to appropriately analyze clustered data (i.e. persons within groups) and/or repeated measures data in psychological research.

Rules & Requirements
Requisites: Prerequisites, PSYC 830 and 831.
Grading Status: Letter grade.

PSYC 847. Advanced Topics in Quantitative Psychology: Measurement. 1 Credits.
This is a one-credit hour seminar focused on contemporary topics in advanced quantitative psychology with a focus on psychometrics and measurement.

Rules & Requirements
Requisites: Prerequisites, PSYC 830 and 831; Permission of the instructor for students lacking the prerequisites.
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 3 total credits. 3 total completions.
Grading Status: Letter grade.

PSYC 848. Advanced Topics in Quantitative Psychology: Modeling. 1 Credits.
This is a one-credit hour seminar focused on contemporary topics in advanced quantitative psychology with a focus on statistical and mathematical modeling.

Rules & Requirements
Requisites: Prerequisites, PSYC 830 and 831; Permission of the instructor for students lacking the prerequisite.
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 3 total credits. 3 total completions.
Grading Status: Letter grade.

PSYC 849. Advanced Topics in Quantitative Psychology: Computation. 1 Credits.
This is a one-credit hour seminar focused on contemporary topics in advanced quantitative psychology with a focus on computational statistics.

Rules & Requirements
Requisites: Prerequisites, PSYC 830 and 831; Permission of the instructor for students lacking the prerequisite.
Repeat Rules: May be repeated for credit. 3 total credits. 1 total completions.
Grading Status: Letter grade.

PSYC 850. Quantitative Psychology Forum. 1 Credits.
Presentations of research by faculty, students, and visitors; discussion of professional topics such as ethics, the publication process, research funding, and the reviewing of articles.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PSYC 859. Seminar in Quantitative Psychology. 1-3 Credits.
Lectures, discussions, and seminar presentations on current topics in quantitative psychology.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

PSYC 860. Directed Research Seminar in Social Psychology. 3 Credits.
Graduate status in social psychology or permission of the instructor. Directed research problems and seminar discussion of related issues.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PSYC 861. Directed Research Seminar in Social Psychology. 3 Credits.
First-year graduate status in social psychology or permission of the instructor. Directed research problems and seminar discussion of related issues.

Rules & Requirements
Grading Status: Letter grade.

PSYC 862. Advanced Social Psychology. 3 Credits.
Intensive study of foundational and current, cutting-edge research in social psychology. Topics may include interpersonal relationships, self-regulation, racism and racial inequality, positive psychology, social cognition, social psychobiology.

Rules & Requirements
Grading Status: Letter grade.

PSYC 863. Methods of Social Psychology. 3 Credits.
Methods of investigation in social psychology, with primary emphasis upon experimental design and the nature of the experimental situation.

Rules & Requirements
Requisites: Prerequisite, PSYC 867; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

PSYC 864. Topics in Attitude Research. 3 Credits.
A critical examination of selected topics in attitude theory and change.

Rules & Requirements
Requisites: Prerequisite, PSYC 867; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

PSYC 865. Methods of Applied Social Psychology. 3 Credits.
Graduate standing required. Supervised research experience in an applied setting and accompanying methods of non-laboratory research, including nonquantitative methods of social psychology and evaluation of quasi-experimental and nonexperimental designs.

Rules & Requirements
Grading Status: Letter grade.

PSYC 866. Interpersonal Processes and Close Relationships. 3 Credits.
Intensive study of the processes by which adult close relationships are initiated and developed.

Rules & Requirements
Requisites: Prerequisite, PSYC 867; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

PSYC 867. Advanced Survey of Social Psychology. 3 Credits.
Graduate standing or permission of the instructor. Survey of research and theories of attitude change, interpersonal relations, and small groups.

Rules & Requirements
Grading Status: Letter grade.

PSYC 868. Seminar in Social Psychology. 3 Credits.
Seminar in Social Psychology.

Rules & Requirements
Requisites: Prerequisite, PSYC 867; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

PSYC 869. Advanced Social Cognition. 3 Credits.
Advanced theory and research in social psychology that explores the cognitive processes underlying social phenomena. Specific topics include attributions, emotions, heuristics, self, goals, motives, and others.

Rules & Requirements
Requisites: Prerequisite, PSYC 867; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

PSYC 870. Psychology of Emotions. 3 Credits.
Graduate standing required. Seminar featuring research and theory on emotions. It stretches across traditional psychological subdisciplines because emotions are complex, multiply determined phenomena.

Rules & Requirements
Grading Status: Letter grade.

PSYC 871. Advanced Group Processes. 3 Credits.
Discusses both classic and contemporary theory and research related to group processes, including group performance, motivation, decision-making, social dilemmas, social justice, and other intragroup and intergroup phenomena.

Rules & Requirements
Requisites: Prerequisite, PSYC 867; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

PSYC 872. Seminar in Political Psychology. 3 Credits.
Graduate standing required. This course surveys research in political psychology. Topics may include personality and politics, political values and attitudes, voter behavior, candidate evaluation, and the role of emotion in political decision-making.

Rules & Requirements
Grading Status: Letter grade.

PSYC 873. Seminar on Prejudice and Stereotyping. 3 Credits.
Graduate standing required. Seminar reviews classic and current literature on the psychology of stereotyping and prejudice. Focus is on causes, consequences, and mental processes that maintain social biases.

Rules & Requirements
Grading Status: Letter grade.

PSYC 874. Social Judgment and Decision Making. 3 Credits.
Discusses both classic and contemporary theory and research related to social judgment and decision making, including basic psychological processes, heuristics and biases, models of decision making, and social influences.

Rules & Requirements
Requisites: Prerequisite, PSYC 863; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

PSYC 875. Advanced Seminar in Positive Psychology. 3 Credits.
Positive Psychology represents a scientific approach to understanding positive aspects of life, including character strengths and human flourishing. This seminar builds students' empirical skills in this vibrant area of inquiry.

Rules & Requirements
Requisites: Prerequisite, PSYC 870.
Grading Status: Letter grade.

PSYC 876. Graduate Seminar in Social and Affective Neuroscience. 3 Credits.
This course will provide students with an understanding of the more basic biological (and psychological) mechanisms that contribute to social processes such as stereotypes, person perception, moral judgments, and emotions. The course will prepare students to be informed consumers of contemporary neuroscience research.

Rules & Requirements
Requisites: Prerequisite, PSYC 869 or PSYC 870; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

PSYC 880. Social Psychobiology. 3 Credits.
Psychological processes are increasingly being appreciated as key predictors of morbidity, mortality, and well-being. But how, exactly, do factors in the social environment "get under the skin" to influence health? This is the main question we will investigate in this course. We will accomplish this primarily through extensive reading and discussion of journal articles and presentations on a variety of biomarkers, physiological processes, and pharmacological approaches.

Rules & Requirements
Grading Status: Letter grade.

PSYC 888. Moral Psychology. 3 Credits.
Course explores moral judgments and behavior; examines morality and cognition, emotion, mind perception, and religion; covers debates between reason vs. intuition, utilitarianism vs. deontology, and single vs. multiple domain theories. Discusses real world applications (courtroom, torture) and related concepts (free will).

Rules & Requirements
Requisites: Prerequisites, PSYC 869 or PSYC 870; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

PSYC 889. Professional Development in Psychology. 3 Credits.
This course offers training and discussion in a wide array of skills rarely covered within formal academic curricula, including: how to select a career path, financial planning, media training, balancing personal/professional lives, applying for postdocs, writing research statements, getting tenure, multiculturalism, applying for grants, consulting, etc.

Rules & Requirements
Grading Status: Letter grade.

PSYC 890. Case Formulation and Psychotherapy Integration. 3 Credits.
Required preparation, third year or beyond in clinical psychology doctoral program. This advanced seminar provides clinical psychology graduate students with case formulation skills in the context of exposure to psychotherapy integration and contemporary evidence-based treatment models.

Rules & Requirements
Grading Status: Letter grade.

PSYC 894. Item Response Theory. 3 Credits.
A first course in test theory (e.g., EDUC 829, PSYC 842) is recommended but not required. Please ask the course instructor if you are unsure about prerequisites. This course covers basic and advanced topics in item response theory (IRT). Examples are taken from educational testing, psychological assessment, and patient-reported health outcomes. Students produce a term project applying IRT to assessment data, and / or addressing mathematical or computational aspects of IRT.

Rules & Requirements
Requisites: Prerequisite, EDUC 784 or PSYC 831.
Grading Status: Letter grade.
Same as: EDUC 894.

PSYC 899. History and Systems of Psychology. 3 Credits.
This is an independent study course on the topic of history and systems of psychology, providing a background on the origins and the development of core ideas in the field of psychology including psychoanalysis, behaviorism, and cognitive psychology, and on the development of applied and professional psychology in the United States. Restricted to: Clinical psychology doctoral students only.

Rules & Requirements
Requisites: Pre- or corequisite, Enrollment in the APA-accredited clinical psychology doctoral program at the University of North Carolina at Chapel Hill.
Grading Status: Letter grade.

PSYC 990. Practicum in Psychology and Neuroscience. 1-3 Credits.
This course provides students with hands-on experience in an area of psychology and neuroscience relevant to the student's research interests through projects and work outside the University, such as an internship experience. The course exposes students to a different range of problems and application areas than they would encounter in the classroom, which is an essential part of their graduate study. The student is to be registered for the course while working.

Rules & Requirements
Requisites: Prerequisite, Approval from instructor in advance.
Repeat Rules: May be repeated for credit. 12 total credits. 12 total completions.
Grading Status: Letter grade.

PSYC 991. Advanced Research. 3 Credits.
Six laboratory hours a week.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PSYC 993. Master's Research and Thesis. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

PSYC 994. Doctoral Research and Dissertation. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

PSYC 995. Dissertation Research for Clinical Interns. 1 Credits.
A course for Clinical Psychology PhD students to register for if they have defended their dissertation but are on internship and therefore are off campus

Rules & Requirements
Requisites: Prerequisites, PSYC 993 and PSYC 994.
Repeat Rules: May be repeated for credit. 2 total credits. 2 total completions.
Grading Status: Letter grade.

Contact Information

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GILLINGS SCHOOL OF GLOBAL PUBLIC HEALTH (GRAD)

The Gillings School of Global Public Health provides exceptional teaching, conducts groundbreaking research, and delivers dedicated service to people across North Carolina, the United States, and around the world. According to *U.S. News and World Report*'s 2025–2026 rankings, the school ranks second of all public health schools in the United States. Gillings is the top *public* school of public health in the nation. The school's mission is to improve public health, promote individual well-being, and eliminate health inequities across North Carolina and around the world.

Accredited by the Council on Education for Public Health (CEPH), Gillings offers undergraduate and graduate programs on campus near the UNC Schools of Medicine, Nursing, Dentistry, and Pharmacy, and through its state-of-the-art online education programs. The Michael Hooker Research Center and many renovated labs and classrooms (http://www.sph.unc.edu/rooms/) provide an environment highly conducive to the dissemination and development of public health knowledge.

Beyond campus, faculty members from the Gillings School of Global Public Health teach, conduct research, and serve communities across the state and nation and around the world. The Research, Innovation and Global Solutions (https://sph.unc.edu/solutions/research-innovation-and-global-solutions/) office works with faculty members and students to coordinate research, teaching, and practice efforts in more than 80 countries and manages innovation labs, visiting professorships, and strategic initiatives to solve public health problems and scale up solutions. It also supports the school's robust research program and public health entrepreneurship. The North Carolina Institute for Public Health (https://sph.unc.edu/nciph/nciph-home/), the school's service and outreach arm, brings public health scholarship and practice communities together. The Gillings School of Global Public Health houses the following departments and curricula:

- Biostatistics (http://sph.unc.edu/bios/biostatistics/)*
- Environmental Sciences and Engineering (https://sph.unc.edu/envr/environmental-sciences-and-engineering-home/)*
- Epidemiology (http://sph.unc.edu/epid/epidemiology-landing/)
- Health Behavior (https://sph.unc.edu/hb/health-behavior-home/)*
- Health Policy and Management (https://sph.unc.edu/hpm/health-policy-and-management-home/)*
- Maternal and Child Health (https://sph.unc.edu/mch/maternal-and-child-health/)
- Nutrition (http://sph.unc.edu/nutr/unc-nutrition/)*
- Public Health Leadership Program (https://sph.unc.edu/phlp/phlp/)

All departments have graduate degree programs, and four (marked with *) offer degrees for undergraduates.

Interdisciplinary programs that provide additional opportunities for students in public health-related education, service, and research include the Carolina Population Center (http://www.cpc.unc.edu/), the Cecil G. Sheps Center for Health Services Research (http://www.shepscenter.unc.edu/), the Center for Environmental Health and Susceptibility (https://sph.unc.edu/cehs/home/), the Center for Health Promotion and Disease Prevention (http://hpdp.unc.edu/), the Nutrition Obesity Research Center (https://norc.unc.edu/), the Injury Prevention Research Center (http://iprc.unc.edu/), Center for Urban and Regional Studies, the UNC Lineberger Comprehensive Cancer Center (https://unclineberger.org/), the North Carolina Institute for Public Health (http://sph.unc.edu/nciph/nciph-home/), the North Carolina Occupational Safety and Health Education and Research Center (http://osherc.sph.unc.edu/), the North Carolina Center for Public Health Preparedness (https://sph.unc.edu/nciph/perrc/), and the Nutrition Research Institute (http://www.uncnri.org/) in Kannapolis.

Graduate academic degrees (https://sph.unc.edu/resource-pages/degrees-and-certificates/) offered by the school are the master of science (M.S.) and the doctor of philosophy (Ph.D.). Graduate professional degrees include the master of science in public health (M.S.P.H.), master of science in environmental engineering (M.S.E.E.), master of public health (M.P.H.), master of health care administration (M.H.A.), master of science in clinical research (M.S.C.R.) and doctor of public health (Dr.P.H.). All degree requirements are administered by the faculty of the Gillings School of Global Public Health with approval from The Graduate School's Administrative Board.

M.P.H. Degree

The master of public health degree is designed to prepare students for positions requiring a considerable breadth of knowledge in the field of public health and a specialization in one concentration. The M.P.H. core is the centerpiece of the master of public health program at Gillings. This integrated 15-credit curriculum spans our 12 concentrations. Students in the M.P.H. degree program also undergo extensive field training.

Requirements for:

Applied Epidemiology Concentration (p. 360)

Environment, Climate, and Health Concentration (p. 344)

Global Health Concentration (p. 427)

Health Behavior Concentration (p. 427)

Health Policy Concentration (p. 444)

Health Equity and Social Justice Concentration (p. 427)

Maternal, Child, and Family Health Concentration (p. 512)

Leadership in Practice Concentration (p. 688)

Nutrition, Food Systems and Health Concentration (p. 601)

Nutrition and Dietetics Concentration (p. 601)

Population Health for Clinicians Concentration (p. 688)

Public Health Data Science Concentration (p. 148)

M.S.P.H. Degree

The master of science in public health is designed to prepare students for professional careers in a specialized area of public health (and/or public health policy). Students in this degree program typically take courses primarily in one major department/concentration in the Gillings School of Global Public Health. Core requirements orient students to a broader view of public health. The master of science in public health is usually a terminal degree; however, students may use this degree (more

so than the master of public health) as a precursor to a doctoral program. Programs of study leading to the M.S.P.H. degree are offered by health policy and management.

M.H.A. Degree

The master of health care administration, offered by the Department of Health Policy and Management, is designed to prepare students for management careers in health care organizations. Graduates will be prepared to take positions as staff members, managers, or consultants for hospitals, health maintenance organizations, clinics, public health departments, and other health care settings. Courses focusing on health care services are supplemented with core courses offering a broader view of public health.

M.S. Degree

The master of science degree is offered in the Departments of Biostatistics, Environmental Sciences and Engineering, and Nutrition (with a focus in biochemistry only).

M.S.E.E. Degree

The curriculum leading to the M.S.E.E. is designed to prepare graduates for careers in the environmental engineering profession with special emphasis on water resources and air and industrial hygiene. Specifically, students awarded this degree are prepared for professional work with private firms of consulting engineers; with public agencies at the national, state, regional, and local levels of government; and with a variety of industrial organizations.

M.S.C.R. Degree

The master of science in clinical research is offered through the Department of Epidemiology. It is intended to complement the substantive training in medicine, dentistry, pharmacy, and other health affairs disciplines by enhancing the student's ability to apply appropriate research methodologies to his or her chosen or established field of research. Applicants will be required to demonstrate a clear relationship with a mentor in this field of research to provide content-area guidance during the program.

Ph.D. Degree

The doctor of philosophy prepares students for leadership in academic and related settings involving teaching and research. Students learn how to be an independent investigator by developing and applying theories for understanding public health, health care services, and policy. Graduates typically are employed by universities or other organizations conducting research. This degree is offered in the Departments of Biostatistics, Environmental Sciences and Engineering, Epidemiology, Health Behavior, Health Policy and Management, Maternal and Child Health, and Nutrition. The precursor to the Ph.D. degree is typically (although not exclusively) an M.S.P.H. degree, if the research is oriented to public health, or an M.S. degree.

Dual-Degree Programs

A number of dual-degree programs are offered in select departments. Under the dual-degree arrangement, a student may earn two professional degrees in a period of time less than the total required by the two degrees separately. Medical students may pursue a dual degree through the Departments of Epidemiology, Health Policy and Management, Maternal and Child Health, or Nutrition, or through the Public Health Leadership Program. Business, law, city and regional planning, and information and library science students may enroll in dual-degree programs through the Department of Health Policy and Management. Students in the MPH Degree can pursue a dual degree (https://sph.unc.edu/resource-pages/mph-dual-degree-partnerships/) with the School of Social Work, Department of City and Regional Planning, Eshelman School of Pharmacy and Law School.

Online Education

The Department of Health Policy and Management provides graduate-level education to employed health professionals and health administrators through its executive master's program. This national program provides master's degree study to full-time health professionals throughout the United States and beyond. This program consists of intensive summer institutes on the Chapel Hill campus, faculty-guided distance learning, and credit transferred from approved programs at other universities.

MPH@UNC (https://onlinemph.unc.edu/) is the UNC Gillings School's online master of public health (M.P.H.) program. Students will attend live, weekly classes led by UNC faculty in an interactive online campus, collaborate with an accomplished group of peers located across the nation, access engaging coursework and resources, receive dedicated guidance from student support specialists, and join the UNC alumni network upon graduation. MPH@UNC is offered on a full-time or part-time basis.

The doctoral program in public health executive leadership (Dr.P.H.) is available through the Department of Health Policy and Management. This program, the only one of its kind in the United States, prepares working health care professionals to become top leaders. This highly competitive, online learning program uses the latest Internet technology to connect distinguished faculty members and students in an unparalleled educational environment.

To learn more about the field of public health executive leadership, visit the website (http://www.aspph.org/discover/) developed by the Association of Schools and Programs of Public Health. The site describes public health, its effect on people's lives locally and globally, and the variety of public health careers.

Contact Information

Gillings School of Global Public Health
Visit Program Website (http://www.sph.unc.edu)
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Dean and Bryson Distinguished Professor in Public Health
Nancy Messonnier

Associate Dean for Academic Affairs
Dana Rice

Associate Dean for Student Affairs
Charletta Sims Evans

PUBLIC HEALTH LEADERSHIP PROGRAM (GRAD)

ThePublic Health Leadership and Practice Department (PHLP), which is housed in the Gillings School of Global Public Health, is an interdisciplinary academic unit dedicated to providing public health professionals with leadership education to meet the challenges inherent in assuring and improving population health. PHLP's mission is to create public health leaders with the vision and ability to anticipate and solve future health challenges wherever they occur throughout the world.

Master of Public Health (M.P.H.)

The redesigned UNC Gillings School of Global Public Health's master of public health (M.P.H.) degree is for individuals who are passionate about solving urgent local and global public health problems. With a legacy of outstanding education, cutting edge research and globally-recognized leadership, the UNC Gillings School is creating the next generation of public health leaders through our integrated training curriculum and 21st-century curriculum.#The Public Health Leadership and Practice Department is home to master of public health concentrations inLeadership in Practice, and Population Health for Clinicians.#Additionally, PHLP also co-leads theGlobal Health#concentration.

Certificate in Field Epidemiology

The online graduateCertificate in Field Epidemiology#is cosponsored by the Departments of Epidemiology and Public Health Leadership and Practice. The certificate requires the completion of 12 credit hours (4 courses) that are designed for working practitioners and emphasizes practical, applied skills.

Certificate in Global Health

The PHLP online graduateCertificate in Global Health#examines the complexities inherent in improving health on a global scale. The curriculum for the certificate requires the completion of 9 credit hours (3 courses) that are designed to#strengthen the global health competencies and abilities of healthcare practitioners.

Certificate in Public Health Leadership

PHLP offers an online graduateCertificate in Public Health Leadership. The certificate is a 9-credit-hour course of study. The content contains two required master's of public health (M.P.H.) degree concentration courses in the Leadership in Practice concentration, along with a graduate elective course offered by the Public Health Leadership program.

Public Health, Master's Program (M.P.H.) — Leadership in Practice Concentration

Leadership isn't a position or a title – it's a mindset, a skillset and a way of showing up in the world. The Leadership in Practice (https://sph.unc.edu/resource-pages/master-of-public-health/leadership-in-practice-concentration/) concentration trains public health leaders who are at the forefront of creating transformational change in all areas of public health practice. Our program, offered on-campus and online, provides the knowledge, skills and practical experience necessary to lead teams, projects, and organizations to address public health challenges in local, national and global settings. In addition to developing important leadership skills, our students learn how to co-design systems and policies that improve health and advance health equity, how to improve the quality and effectiveness of public health programs and services, and how to work to greatest effect in, for and with the communities we serve. The things you will learn in the Leadership concentration are exactly the things employers say they are looking for in public health graduates, and are applicable to any public health setting.

Graduates of the Leadership in Practice concentration are leaders who are well-equipped to mobilize change, to innovate to improve the public's health, and to advocate for changes to the social and political factors that affect the health of individuals and communities in North Carolina and beyond. Our graduates work in federal, state and local government, in non-profit organizations from local to global, in health care organizations, in academia, and in the private sector.

Begin or continue your leadership journey with Leadership in Practice at Gillings.

Course Requirements

Code	Title	Hours
M.P.H. Integrated Core		
SPHG 711	Data Analysis for Public Health	2
SPHG 712	Methods and Measures for Public Health Practice	2
SPHG 713	Systems Approaches to Understanding Public Health Issues	2
SPHG 701	Leading from the Inside-Out	2
SPHG 721	Public Health Solutions: Systems, Policy and Advocacy	2
SPHG 722	Developing, Implementing, and Evaluating Public Health Solutions (MPH Comprehensive Exam administered in class)	4
M.P.H Practicum		
SPHG 703	MPH Pre-Practicum Assignments	0.5
SPHG 707	MPH Post-Practicum Assignments	0.5
M.P.H. Concentration		
PUBH 791	Core Principles in Public Health Leadership	3
PUBH 730	Leading Continuous Quality Improvement (CQI) in Public Health Locally And Globally	3
PUBH 718	Systems and Design Thinking for Public Health Leaders	3
PUBH 748	Leadership in Health Policy for Social Justice	3
PUBH 781	Community Engagement and Leadership in Health	3
M.P.H. Electives		
Electives (Graduate-level courses, 400+ level at Gillings, 500+ level at UNC)		9
M.P.H. Culminating Experience		
PUBH 992	Master's (Non-Thesis)	3
Minimum Hours		**42**

Admissions

Please visit Applying to the Gillings School (https://sph.unc.edu/students/how-to-apply/) first for details and information. Application to the residential M.P.H. is a 2-step process. Please apply separately to (1) SOPHAS and (2) UNC–Chapel Hill (via the Graduate School application link that will be sent after completing the SOPHAS application). Visit the Graduate School Web site (https://gradschool.sites.unc.edu/master-of-public-health/) for more details. If you are interested in the online M.P.H.,

please visit the MPH@UNC (https://onlinemph.unc.edu/) website and fill out an inquiry form.

Milestones

- Master's Committee
- Master's Written Examination/Approved Substitute (Comprehensive Exam)
- Thesis Substitute (Culminating Experience)
- Residence Credit
- Exit Survey
- Master's Professional Work Experience (Practicum)

Public Health, Master's Program (M.P.H.) — Population Health for Clinicians Concentration

The Population Health for Clinicians (https://sph.unc.edu/resource-pages/master-of-public-health/population-health-for-clinicians-concentration/) concentration is designed for medical students, practicing physicians and other clinicians who wish to increase their knowledge in public health and population science to better serve their communities. This concentration offers a unique interdisciplinary focus on clinical, prevention, population and policy sciences which enable students to improve prevention science and the clinical environment when they complete the program. This concentration is available only in a full-time, residential format.

Building on two decades of collaboration between the UNC schools of medicine and public health, this concentration offers an opportunity for medical students, physicians, and other clinicians to gain mastery in public health and population science. It also offers a unique interdisciplinary focus on clinical, prevention, population and social sciences.

Course Requirements

Code	Title	Hours
M.P.H. Core & Concentration		
BIOS 641	Quantitative Methods for Health Care Professionals I	4
PUBH 706	Health Policy for Clinicians	3
PUBH 746	Planning, Implementing, and Evaluating Public Health Interventions (Comprehensive Exam embedded in this course)	3
PUBH 749	LEADERSHIP & PROFESSIONAL DEVELOPMENT FOR CLINICIANS	2
PUBH 750	Strategies of Prevention for Clinicians	3
PUBH 751	Critical Appraisal of Health Literature I	2
PUBH 760	Clinical Measurement and Evaluation	3
PUBH 890	Special Topics in Public Health Leadership (Health System Functions & Key Challenges)	2
PUBH 702	Systematic Review	2
PUBH 749	LEADERSHIP & PROFESSIONAL DEVELOPMENT FOR CLINICIANS	2
M.P.H. Practicum		
MPH Practicum - 200 hours		
SPHG 706	MPH Pre and Post Practicum Assignments	1
M.P.H. Electives		
Electives (Graduate-level courses, 400+ level at Gillings, 500+ level at UNC)		12
M.P.H. Culminating Experience		
PUBH 992	Master's (Non-Thesis)	3
Total Hours		**42**

Admissions

Please visit Applying to the Gillings School (https://sph.unc.edu/students/how-to-apply/) first for details and information. Application to the residential M.P.H. is a 2-step process. Please apply separately to (1) SOPHAS and (2) UNC–Chapel Hill (via the Graduate School application link that will be sent after completing the SOPHAS application). Visit the Graduate School Web site (https://gradschool.sites.unc.edu/master-of-public-health/) for more details. If you are interested in the online M.P.H., please visit the MPH@UNC (https://onlinemph.unc.edu/) website and fill out an inquiry form.

Milestones

- Master's Committee
- Master's Written Examination/Approved Substitute (Comprehensive Exam)
- Thesis Substitute (Culminating Experience)
- Residence Credit
- Exit Survey
- Master's Professional Work Experience (Practicum)

Public Health Executive Leadership, Doctoral Program (Dr.P.H.)

The doctor of public health provides professional training to prepare students to participate in and lead evidence-based practice and generate practice-based evidence; lead and effect change across systems, disciplines, professions, and sectors; analyze, develop, implement, and evaluate policies, programs, and services that promote health and communicate and promote public health as a common good. Graduates typically are employed by operating community or public health programs at the local, state, national, or international level. A program of study leading to the Dr.P.H. degree is offered by the Department of Health Policy and Management and the Department of Public Health Leadership and Practice (synchronous online learning and periodic in-residence weeks format).

See link for more information- https://catalog.unc.edu/graduate/schools-departments/health-policy-management/#doctoraldegreetext

Professors of the Practice

Rhonda Stephens,Public Health Leadership, Dental Public Health; PHLP Certificate Director
Vaughn Upshaw,Department Chair; Public Health Leadership, Online Education

Professors

Amy Joy Lanou, Public Health Leadership and Practice, NC Institute for Public Health

Associate Professors

Lori A. Evarts,Associate Chair for Academics, Public Health Leadership, Project Management, Team Effectiveness, Clinical Research, Leadership, Online Education

Dilshad Jaff, Public Health Leadership; Co-Lead Humanitarian Health Alliance
Kim Ramsey-White, Public Health Leadership and Practice
Dana Rice, Public Health Leadership, Online Education; Associate Dean of Academic Affairs

Assistant Professors

Karar Zunaid Ahsan, Public Health Leadership, Global Health
Marie Lina Excellent, Public Health Leadership, Co-Lead Concentration (Global Health)
Cythnia Feltner,Co-Concentration Lead (Population Health for Clinicians); Medicine
William Oscar Fleming, Public Health Leadership, Global Health, Co-Lead DrPH (Public Health Executive Leadership)
Ellison Henry, Public Health Leadership
Karl T. Johnson, Public Health Leadership; Certificate Director (Public Health Leadership Certificate)
Aimee McHale,Concentration Lead (Leadership in Practice); Public Health Leadership, Online Education
Sarah Brill Thach,#Place-Based Health, Rural Health
Laura Villa Torres, Public Health Leadership, Migrant Health; Certificate Director (Global Health)
Minzhi Xing, Co-Concentration Lead (Population Health for Clinicians)**;** Public Health Leadership, Health Services Research

Adjunct Professors

John Brock, Public Health Leadership
Timothy Gabel, Population Health for Clinicians
Russell Harris,Public Health Leadership
Vijaya K. Hogan, Public Health Leadership
Russell Harris,Public Health Leadership
Kody H. Kinsley, Public Health Leadership
J. Lloyd Michener, Public Health Leadership
Virginia Moyer, Population Health for Clinicians
Medge Owen, Public Health Leadership
Marcus Plescia, Public Health Leadership
Rohit Ramaswamy, Public Health Leadership, Global Health
Greg Randolph, Public Health Leadership
Marianne C. Ratcliffe, Public Health Leadership
Kevin W. Sowers, Public Health Leadership
Paula Brown Stafford, Public Health Leadership
Hugh H. Tilson, Public Health Leadership
Anthony J. Viera, Population Health for Clinicians
Sanjay Zodpev, Public Health Leadership

Adjunct Associate Professors

Ameena Batada,#Place-Based Health, Rural Health
Kauline Cipriani, Public Health Leadership
William Donigan, Public Health Leadership, Dentistry
Manish Kumar, Public Health Leadership
Nancy McGee,#Public Health Leadership
Jacqueline Olich,#Practicum Placements, Leadership, Global Online
Deborah Porterfield,#Population Health for Clinicians

Adjunct Assistant Professors

Kathryn Andolsek,#Population Health for Clinicians
Shannon Aymes, Population Health for Clinicians
Marcella H. Boynton,#Population Health for Clinicians
Linnea Carlson, Public Health Leadership
Lori Carter-Edwards, Public Health Leadership
RussellColetti,#Population Health for Clinicians
Donna Dinkin,#Public Health Leadership
Robert Doherty, Public Health Leadership, Dentistry
Kim Faurot,Population Health for Clinicians
Jill Fromewick,#Public Health Leadership, Rural Health
Jared Gallaher,#Public Health Leadership
Erica Gregory,#Population Health for Clinicians
Jennifer Griffin,#Epidemiology, Global Health, Online Education
Chase Harless, Public Health Leadership
Mamie Sackey Harris,#Public Health Leadership, Global
Lisa Macon Harrison,#Public Health Leadership
Wade Harrison, Population Health for Clinicians
Elizabeth High,#Public Health Leadership
Fabrice Julien,#Place-Based Health
Leila C. Kahwati,Public Health Leadership
Spencer Lindgren, Public Health Leadership
Rebecca Maine,#Public Health Leadership
Katrina Mattison-Chalwe, Public Health Leadership
Paul Meade,#Public Health Leadership
Vanessa Miller,Public Health Leadership
Gita Mody, Public Health Leadership
Charles Mike Newton-Ward,#Public Health Marketing, Online Education
Brettania O'Connor, Public Health Leadership
Christine Pettitt-Schieber,#Public Health Leadership
Trista Reid,#Public Health Leadership
Megan Richardson, Public Health Leadership; PHLP Mentoring Director
Robert A. Rowe, Population Health for Clinicians
Ghazaleh Samandari,Public Health Leadership, Global Online
Tanvi Shah,#Public Health Leadership
Amy Belflower Thomas,#Public Health Leadership
Douglas W. Urland, Public Health Leadership
Gretchen Van Vliet,#Public Health Leadership, Global Health
Meera Viswanathan,#Public Health Leadership
John Wallace, Public Health Leadership
Rachel A. Wilfert,#Public Health Leadership
Louise Winstanly,#Public Health Leadership, Ethics, Global Health
Jacqueline Wynn,#Public Health Leadership
Susan Zelt,#Public Health Leadership, Practicum Placement, Research Design and Management

Adjunct Instructors

Carol Breland, Public Health Leadership, Online Education
Teresa George, Public Health Leadership
Jeannine Herrick,#Public Health Leadership
Natasha Hughes, Public Health Leadership
Emily Kiser,#Public Health Leadership
Ellis D. Vaughan, Public Health Leadership
Jessica Vaughan, Public Health Leadership

Professors Emeriti

Russell Harris, Population Health for Clinicians
Arnold D. Kaluzny, Public Health Leadership
Anna P. Schenck, Public Health Leadership
William A. Sollecito, Public Health Leadership

The Public Health Leadership Program uses the PUBH abbreviation for course listings. PUBH courses are open to any student unless the individual course indicates permission of instructor is required. Visit the website (http://www.sph.unc.edu/phlp/) for additional information.

Advanced Undergraduate and Graduate-level Courses

PUBH 420. HIV/AIDS Course. 1 Credits.
This course offers participants a multidisciplinary perspective on HIV/AIDS -- its etiology, immunology, epidemiology and impact on individuals and society. The course will ask what lessons about pandemics can be learned from studying HIV/AIDS, with a specific focus on parallels with COVID-19. Open to undergraduate, graduate, and professional students.

Rules & Requirements
Grading Status: Pass/Fail.

PUBH 610. Introductory Spanish for Health Professionals. 3 Credits.
This course is intended for students who know no Spanish or so little that they feel the need to start over. Students with more than two semesters of college Spanish are not eligible. The course covers the curriculum of first-semester Spanish taught within a health context, with a focus on speaking.

Rules & Requirements
Grading Status: Letter grade.
Same as: NURS 610, SOWO 610.

PUBH 613. Intermediate Spanish for Health Care I. 3 Credits.
This intermediate course is the equivalent of the third semester of college Spanish. Students will hone their listening and speaking skills in class primarily through role-playing activities and class discussion. Activities center on an original film set in a health clinic in rural North Carolina.

Rules & Requirements
Grading Status: Letter grade.
Same as: HSCI 613I, NURS 613I, SOWO 613I.

PUBH 615. Advanced Spanish for Health Care I. 3 Credits.
Required preparation, third semester Spanish or equivalent. This advanced course reviews the grammar of the third and fourth semester of college Spanish. Students hone their listening and speaking skills through role-playing activities and class discussion. Activities center on an original film set in a Latino-run health clinic.

Rules & Requirements
Grading Status: Letter grade.
Same as: HSCI 615I, NURS 615I, SOWO 615I.

PUBH 690. Special Topics in Public Health Leadership. 1-3 Credits.
Permission of the instructor. Sections will focus on specific topics of current interest to health workers. Fliers describing the section offering will be distributed prior to registration each semester. Lecture hours per week dependent upon credit.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

PUBH 696. Independent Study. 1-3 Credits.
Independent Study to address goals and objects of student. Prior faculty agreement is required. Registration for an independent study course must be completed after the learning contract has been approved and no later than the last day of "late registration" (the end of the first week of classes in F/S).

Rules & Requirements
Grading Status: Letter grade.

Graduate-level Courses

PUBH 701. Cost-Effectiveness in Health and Medicine. 2 Credits.
Overview of economic evaluations of public health and health care interventions, understanding basic methods of cost-effectiveness analyses (CEA) and use of CEA to inform resource allocation decisions. Critically appraise CEA for internal validity and applicability. Explore controversial CEA issues, including methodological controversies and ethical issues for the prioritization of resources.

Rules & Requirements
Grading Status: Letter grade.

PUBH 702. Systematic Review. 2 Credits.
Course gives students background in assessing and conducting systematic reviews. Focuses on 1) reading, discussing, and critiquing systematic reviews on various topics; 2) reading background and methods articles on systematic reviews; 3) developing a focused question for systematic review; and 4) developing a protocol for a systematic review over the semester.

Rules & Requirements
Grading Status: Letter grade.
Same as: EPID 702.

PUBH 705. One Health: Philosophy to Practical Integration. 1-3 Credits.
This course explores the intersection of human, animal, and environmental health and facilitates the understanding of health as an inexorably linked system requiring multidisciplinary collaborative efforts. The One Health concept demonstrates the importance of a holistic approach to disease prevention and the maintenance of human, animal, and environmental health.

Rules & Requirements
Grading Status: Letter grade.
Same as: ENVR 705.

PUBH 706. Health Policy for Clinicians. 3 Credits.
This course provides a foundational understanding of the policy process and how evidence-based policy can be used to address major US health system problems, particularly at the nexus of public health and clinical care. There is additional focus on the role of law, politics and public health ethics in addressing public health issues, and the role of clinical professionals in advocating to advance public health policy priorities.

Rules & Requirements
Grading Status: Letter grade.

PUBH 707. Applying Diversity, Equity, Inclusion (DEI) And Leadership in Public Health Practice. 1 Credits.
Aims at helping students better understand the implementation of Inclusive Diversity and Cultural Humility in the real world and the best approaches to collectively mitigate the challenges. Students will practice in this course the ability to: Incorporate inclusion, diversity, equity, cultural humility and political savviness into their leadership style and practice of public health for Healthier communities locally and globally. The overarching goal is to understand the complexity and multi-dimensionality of effective implementation of those skills listed above and their challenges.

Rules & Requirements
Grading Status: Letter grade.

PUBH 708. Place-Informed Health Communications. 3 Credits.
In-depth examination and practice of methods for communicating health messages to and with groups and populations. Public health communication theory, sociocultural issues, and communications contexts including place, are explored while developing communication skills and strategies. Topics include health communication research, data visualization, media advocacy, communication with policy makers, social media, public health presentations, use of technology, health promotion materials development, and health and media literacy. Emphasis on written and oral communication to promote health.

Rules & Requirements
Requisites: Prerequisites, SPHG 713 and PUBH 734.
Grading Status: Letter grade.

PUBH 710. Introduction to Global Health Ethics. 1 Credits.
This course is designed to give students the skills to identify and effectively address ethical issues that arise in global health research and practice.

Rules & Requirements
Grading Status: Letter grade.

PUBH 711. Critical Issues in Global Health. 3 Credits.
Explores contemporary issues/controversies in global health through an interdisciplinary perspective; examines complexity of social, economic, political, and environmental factors affecting global health; analyzes global health disparities through a social justice lens; and exposes students to opportunities in global health work and research.

Rules & Requirements
Grading Status: Letter grade.

PUBH 712. Global Health Ethics. 3 Credits.
This course will introduce students to the theoretical and practical aspects of public health ethics. Develop student's analytical skills to evaluate ethical issues related to public health policy, prevention, treatment, and research. Topics include: ethical reasoning; concepts of justice; principles of interacting with communities; professional conduct and research. Online course.

Rules & Requirements
Grading Status: Letter grade.

PUBH 714. Introduction to Monitoring and Evaluation of Global Health Programs. 3 Credits.
Fundamental concepts/tools for monitoring/evaluating public health programs including HIV/AIDS/STDs, maternal/child health, environment, and nutrition. Concepts and practices in M&E will be covered: logic models, theory of change, indicators, data collection methods, process evaluation, research design, and mixed methods. Small group work to create M&E plan for global health case-study. Online.

Rules & Requirements
Grading Status: Letter grade.

PUBH 718. Systems and Design Thinking for Public Health Leaders. 3 Credits.
Using powerful tools from engineering and management, this course equips students to conceptualize, design, and analyze public health and healthcare delivery systems for successful implementation.

Rules & Requirements
Requisites: Prerequisite, SPHG 713; PUBH 791 (Only MPH LIP students pre-req).
Grading Status: Letter grade.

PUBH 720. HIV/AIDS Course. 1 Credits.
This course offers participants a multidisciplinary perspective on HIV/AIDS and COVID -- their etiology, immunology, epidemiology, and impact on individuals and society. How pandemics are framed by a society determines not only how affected persons are treated but also the degree to which the rights of the individual are upheld.

Rules & Requirements
Grading Status: Letter grade.

PUBH 721. Dental Public Health and Access to Oral Health Care. 3 Credits.
Students will evaluate systems of care that impact oral health, understand the health policy process, and engage in policy analysis. Issues to be explored will include: access to care for high risk populations; integration of dental services into public health programs; trends in the demand and expenditures for dental services; dental care policy and the health policy process; the legislative process; and managed dental care.

Rules & Requirements
Requisites: Prerequisite, Requires permission of the instructor for undergraduate students.
Grading Status: Letter grade.

PUBH 723. The Political Determinants of Health. 3 Credits.
The course uses Daniel Dawes' "The Political Determinants of Health" as its foundational text, with additional readings and resources to further supplement the students' understanding of how the political determinants - voting, government and public policy - operate to structure decisions and systems that allocate opportunities for people and communities to be healthy, to succeed and to thrive...or not.

Rules & Requirements
Requisites: Prerequisite, SPHG 721 or instructor permission.
Grading Status: Letter grade.

PUBH 724. Public Health and Migration. 2 Credits.
This course examines migration from a global public health perspective. We take a broad understanding of migration, as the process of moving from one's place of origin to another compelled by different factors (i.e., economic, political, environmental). We discuss social determinants of migration and its health effects, and public health interventions. This class teaches students basic qualitative research skills, including drafting qualitative research questions, interview guides, and conducting and analyzing in-depth interviews.

Rules & Requirements
Grading Status: Letter grade.

PUBH 725. The HIV/AIDS Course Online. 1 Credits.
This online course offers a multidisciplinary perspective on HIV/AIDS -- its etiology, immunology, epidemiology, and impact on individuals and society. How HIV/AIDS is framed by a society determines not only how affected persons are treated but also the degree to which the rights of the individual are upheld.

Rules & Requirements
Grading Status: Letter grade.

PUBH 729. Migration and Health. 3 Credits.
This course explores the linkage between migration and health by taking into account existing models and frameworks that assess the dynamics of an increasingly mobile society. The course evaluates trends in health outcomes among migrants, social determinants of health that affect new migrants and migrant health across the life course. Other elements: labor migration and occupational health; place-based health; access to health coverage; health service provision to migrants.

Rules & Requirements
Grading Status: Letter grade.

PUBH 730. Leading Continuous Quality Improvement (CQI) in Public Health Locally And Globally. 3 Credits.
Overview of continuous quality improvement (CQI) applications in public health in local and global settings including its important relationship to leadership and equity. Focus on practical skills and tools with sufficient theory to understand the origins of the philosophy and describe/analyze processes encompassed by CQI. For working public health practitioners with current or future management/leadership responsibilities driven by equity within their organizations and for individuals interested in applied CQI in their personal lives worldwide.

Rules & Requirements
Requisites: Prerequisite, PUBH 791; applies only to Leadership in Practice concentration MPH students.
Grading Status: Letter grade.

PUBH 731. Public Health Social Marketing. 3 Credits.
Course will orient students to market-based strategies, models, and tactics for improving individual and community health status within the framework of marketing, strategic communication, and advocacy. Online course.

Rules & Requirements
Grading Status: Letter grade.

PUBH 734. Place-based Theory in Public Health. 2 Credits.
This course addresses concepts of place-based public health including the histories of people, landscapes, landmarks, culture, structures, and/or other aspects of place and how they provide assets and barriers for a community's health. Students compare public health concepts of a place-based approach with multiple disciplines' perspectives on place. Students integrate concepts with visits to, and experiences with, people and health institutions in Western North Carolina. Fall.

Rules & Requirements
Grading Status: Letter grade.

PUBH 736. Individual Transformation Applied to Public Health and Place. 2 Credits.
In this course, students assess personality preferences and leadership styles to better understand themselves, their values, and their relationship to the identities and values of others and effectively engage groups and communities. They examine social location and structures and their effects on preferences, personality, and styles; personal health; and public and community health. They deepen their knowledge and awareness to facilitate transformation of self and public health teams to implement multi-level change efforts.

Rules & Requirements
Grading Status: Letter grade.

PUBH 737. Place-based Research & Evaluation Methods. 2 Credits.
This course is an applied research workshop that engages students in foundational skill-building, from interrogating history and foundations of public health research, to developing a research question, describing methods and approaches, and sharing research findings, informed by place and practice. The course focuses on a range of research methods and how to appropriately apply them to study and improve health. Students develop a research study proposal in this course.

Rules & Requirements
Requisites: Prerequisites, SPHG 711, SPHG 712, SPHG 713, PUBH 734, and PUBH 736; permission from the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

PUBH 738. Place-based Community Transformation. 3 Credits.
This course explores the who, what, where, when, why, and how of community health transformation. We learn about cultural context, purpose, and approaches supporting and enacting health justice from community co-educators; engage with models (Participatory Action Research and Community-Based Participatory Research/Action) and resources; explore the roles of history, perspective, relationships, and trust in community work; visit to/with community co-educators, engage in community-collaborative activities, and analyze a community health transformation.

Rules & Requirements
Requisites: Prerequisite, PUBH 737.
Grading Status: Letter grade.

PUBH 739. Place-Based Systems Transformation. 3 Credits.
This course provides opportunities to understand, investigate, interrogate, and reimagine complex systems as they relate to health care, public health, and social drivers of health. Students evaluate a wide variety of factors impacting health outcomes using a case-based and problem-based approach in multiple systems, with place as a core construct.

Rules & Requirements
Requisites: Prerequisite, SPHG 713.
Grading Status: Letter grade.

PUBH 740. Implementation of Place-based Theory and Design in Public Health. 3 Credits.
In response to Western North Carolina organizations' requests, students use place-based principles to understand public health issues and design community-based, multi-level interventions. Student teams and interested parties explore community priorities and perceptions, and then student teams develop sustainable plans for host organizations to implement.

Rules & Requirements
Requisites: Prerequisites, PUBH 734, PUBH 736, PUBH 737, PUBH 738, and PUBH 739.
Grading Status: Letter grade.

PUBH 743. Climate Change and Human Health. 3 Credits.
This course will produce foundational knowledge for public health professionals to understand and help mitigate the global and regional human health impacts of climate change. This course leverages the expertise of experts in Asheville at the National Centers for Environmental Information and the Climate Program Office within the National Oceanic and Atmospheric Administration (NOAA).

Rules & Requirements
Requisites: Prerequisites, SPHG 711, 712, and 713.
Grading Status: Letter grade.

PUBH 744. A "Crash" Communications Course. 1 Credits.
This IPEP course uses the 2006 Academy Award winning film CRASH to illustrate the interconnectedness of peoples lives and the triumphs and tragedies that result from our inability to "see" each other's lives and lived experience. Students will explore concepts and strategies that support improved oral and written communication, learn how to approach issues that may be divisive and how to engage in civil discourse. This course is important for helping to build a foundation for developing a stronger school climate of acceptance, inclusion and belonging in the Gilling's School and creating public health professionals with strong interpersonal Communication skills.

Rules & Requirements
Grading Status: Letter grade.

PUBH 746. Planning, Implementing, and Evaluating Public Health Interventions. 3 Credits.
This course provides you with the knowledge and skills needed to plan, implement, and evaluate public health interventions. You will refine and enhance your understanding of specific public health problems; identify and prioritize potential solutions; consider community assets, needs, culture and context; adapt evidence-based interventions for a particular context; and develop proposed solutions with an eye on health equity. Final deliverables: written project plan and oral pitch in support of your solution. MPH PHC Concentration Students only.

Rules & Requirements
Grading Status: Letter grade.

PUBH 747. Project Management Principles and Practices. 3 Credits.
Graduate students only. Provides an overview of knowledge and skills required for effective project/team leadership and management. Includes modules on leadership, management techniques, application of continuous quality improvement, and project management as well as organizational designs that complement team-based organizations. Online course.

Rules & Requirements
Grading Status: Letter grade.

PUBH 748. Leadership in Health Policy for Social Justice. 3 Credits.
This course will provide students with the knowledge and skills to develop policies that address public health challenges, with an emphasis on improving health equity, promoting social justice, and creating systems in which the human right to health is given full effect.

Rules & Requirements
Requisites: Prerequisite, SPHG 721 (for all students); PUBH 791 (for Leadership in Practice students only).
Grading Status: Letter grade.

PUBH 749. LEADERSHIP & PROFESSIONAL DEVELOPMENT FOR CLINICIANS. 2 Credits.
Designed for students in the Population Health for Clinicians concentration in the MPH program who are preparing to work on their practicum and master's paper. This course focuses on developing Leadership skills at the intersection of healthcare and public health, and preparing students to engage in public health practice. Taken in Fall and Spring semesters.

Rules & Requirements
Repeat Rules: May be repeated for credit. 4 total credits. 2 total completions.
Grading Status: Letter grade.

PUBH 750. Strategies of Prevention for Clinicians. 3 Credits.
This course for students in the PHC concentration establishes a framework for examining prevention strategies delivered in healthcare and public health settings and considers several important health problems and the evidence for applying prevention strategies to these health problems. Students learn and apply skills related to identifying public health problems and appropriate prevention strategies, and communicating about risk to different audiences. Encourages active student participation and involves a multidisciplinary faculty.

Rules & Requirements
Grading Status: Letter grade.

PUBH 751. Critical Appraisal of Health Literature I. 2 Credits.
Emphasizes the process of critical appraisal of existing medical research literature, with examples from a variety of subject areas. Students must be enrolled in the Population Health for Clinicians Concentration or have permission of the instructor to enroll.

Rules & Requirements
Grading Status: Letter grade.

PUBH 752. Critical Appraisal of Health Literature II. 1 Credits.
Emphasizes the process of critical appraisal of existing medical research literature, with examples from a variety of subject areas. Student presentations of structured critical appraisals constitute about 50 percent of sessions. Students must be enrolled in the Population Health for Clinicians Concentration or have permission of the instructor to enroll.

Rules & Requirements
Grading Status: Letter grade.

PUBH 754. Research Frameworks and Methods for Assessing and Improving Population Health. 3 Credits.
This course is designed to provide students with the fundamental research and analytic methods needed by public health leaders to assess the effectiveness, efficiency, and equity of healthcare in order to improve population health. The focus will be on research skills needed by practitioners with the objective of improving health outcomes.

Rules & Requirements
Grading Status: Letter grade.

PUBH 760. Clinical Measurement and Evaluation. 3 Credits.
Provide a broad-based introduction to the concepts and methods of epidemiology with particular emphasis on their application in clinical research, clinical practice and health care policy.

Rules & Requirements
Grading Status: Letter grade.
Same as: EPID 711.

PUBH 763. The Politics of Health Reform, Quality, Outcomes, and Effectiveness. 3 Credits.
Systematic analysis of recent reforms to the U.S. health care system, including passage and initial implementation of the Affordable Care Act, with particular attention to how reform is intended to improve access, quality, equity, and effectiveness and whether reform can accomplish this while controlling cost.

Rules & Requirements
Grading Status: Letter grade.

PUBH 766. Implementation Science for Public Health Practice. 3 Credits.
This class will provide students with an opportunity to learn about implementation science and to apply relevant methods and tools to improve population health outcomes. Students will develop an understanding of implementation science frameworks and approaches. Students will also gain an understanding of the importance of implementation science for addressing public health concerns and the role implementation science can play in bringing public health practice and research closer together. This course will draw on concepts and practices related to public health leadership, quality improvement, systems and design thinking, and community engagement, among others.

Rules & Requirements
Requisites: Prerequisites, SPHG 711, SPHG 712, SPHG 713, SPHG 721, and SPHG 722.
Grading Status: Letter grade.

PUBH 767. Team Leadership in Research Navigation. 3 Credits.
Team leadership and management practices with an emphasis on successful team leadership in clinical research. Team effectiveness strategies provide framework for development of successful leadership of teams undertaking clinical research.

Rules & Requirements
Grading Status: Letter grade.

PUBH 769. Public Health Leadership Lessons. 0.5-3 Credits.
PUBH 769 is a public health leadership topics course to explore leadership lessons. This section will focus on leadership during crisis using the experiences with the COVID 19 pandemic as examples. By permission of instructor

Rules & Requirements
Requisites: Prerequisite, PUBH 791.
Grading Status: Letter grade.

PUBH 781. Community Engagement and Leadership in Health. 3 Credits.
PUBH 791 could be a co-requisite with another required concentration course, only with instructor permission. Students will gain a basic understanding of how to be leaders in applying principles of community engagement in public health programs and organizational settings by engaging different stakeholder sectors, promoting multi-level cohesion among different audiences, communicating strategies, and collaboratively designing community engagement and implementation plans.

Rules & Requirements
Requisites: Prerequisite, PUBH 791, Leadership in Practice students only.
Grading Status: Letter grade.

PUBH 783. Mass Criminalization, Mass Incarceration & Public Health. 3 Credits.
This course examines the public health impact of mass criminalization and mass incarceration in the US. Using a public health prevention framework, students will investigate the intersection of the criminal legal system with health outcomes. Students will identify alternative strategies grounded in public health, social justice and human rights principles to create healthier communities.

Rules & Requirements
Requisites: Prerequisite, SPHG 711, 712, 713 preferred but not required; contact instructor for permission if SPHG 711, 712, 713 have not been undertaken.
Grading Status: Letter grade.

PUBH 784. Project Management Strategy and Application. 3 Credits.
This course presents classic project management concepts and methods, applicable to research, public health, healthcare, information science and other team projects, with an aim to develop a toolbox of strategies to effectively manage projects using globally accepted theoretical frameworks; practice is gained via assignments, cases, lectures, and course project.

Rules & Requirements
Grading Status: Letter grade.

PUBH 785. Community Engagement for Governance. 3 Credits.
This is an applied service-based course in public health leadership. Students will engage with community-based partners to co-design and develop evidence-driven interventions that will strengthen collaborative infrastructure needed to address Social Determinants of Health.

Rules & Requirements
Requisites: Prerequisite, PUBH 791; Pre- or corequisites, SPHG 711, 712 and 713.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

PUBH 790. Fundamentals of Public Health Leadership. 3 Credits.
This course is designed to gain a deeper insight into their own and others' leadership styles, behaviors, and emotional intelligence. Students will engage in a day-long active-learning workshop every other week and access videos, readings and assignments online. Students will engage with the instructor and peers in person via reflection journals, large and small group activities, leadership assessments. Students will produce a leadership development plan and generate a set of professional goals.

Rules & Requirements
Grading Status: Letter grade.

PUBH 791. Core Principles in Public Health Leadership. 3 Credits.
Course will introduce students to leadership theories and research, provide a context for leadership in public health, and help students learn core leadership skills.

Rules & Requirements
Grading Status: Letter grade.

PUBH 805. Addressing Health Inequities and Social Determinants of Health through Service Learning. 1 Credits.
This course bridges coursework and knowledge gained in health inequities with applied practice. Each semester, a specific health inequity and/or social determinant of health will be chosen based on current events. Students will hear from practitioners about how this issue affects public health on-the-ground as well as: participate in related service-learning projects with community/practitioner partners during Spring Break, incorporate reflection-in-action into activities and reflection-on-action to identify how they will incorporate lessons learned into future work.

Rules & Requirements
Repeat Rules: May be repeated for credit. 2 total credits. 2 total completions.
Grading Status: Letter grade.

PUBH 810. Population Health: Interprofessional Management in a Changing Healthcare System. 3 Credits.
Admission to SPH graduate program required for course enrollment. Course experience will involve medicine, nursing, pharmacy, and social work students engaging together to learn skills and knowledge to apply population health principles. Key themes include inter-professional collaboration and teamwork, identification and stratification of populations-at-risk, and discussion of evidence-based care planning/coordination.

Rules & Requirements
Grading Status: Letter grade.

PUBH 811. Population Health in Health Care: Field Experience. 3 Credits.
This inter-professional field-based course offers opportunities to engage with students from medicine, nursing, pharmacy, and social work to learn skills and knowledge to apply population health principles in a primary healthcare setting. Students will work on team-based projects in primary care settings.

Rules & Requirements
Requisites: Prerequisite, PUBH 810; permission of instructor for students lacking the prerequisite.
Grading Status: Letter grade.

PUBH 886. Field Practicum in Public Health. 1-6 Credits.
The practicum provides the student an opportunity to integrate coursework in a public health-related setting. This course site will house the Practicum Learning Agreement and Work Products. Students are required to take this course in the semester during which they complete their practicum. Restricted to Population Health for Clinicians students only.

Rules & Requirements
Grading Status: Letter grade.

PUBH 890. Special Topics in Public Health Leadership. 1-3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

PUBH 891. Public Health Leadership Topics for Leaders. 0.5-3 Credits.
PUBH 769 is a public health leadership topics course where the leadership topics can vary by semester and by section number. Permission by instructor to enroll is required.

Rules & Requirements
Grading Status: Letter grade.

PUBH 992. Master's (Non-Thesis). 3 Credits.
This is the culminating course for the MPH degree. Students enrolling in this class should have completed all core courses and have completed or be enrolled in the final concentration courses AND be in the final term of their MPH program. Permission of the instructor is required.

Rules & Requirements
Requisites: Prerequisites, PUBH 791, SPHG 711, SPHG 712, SPHG 713, SPHG 721, SPHG 722; Pre- or Co-requisites, PUBH 781, PUBH 718, PUBH 748, PUBH 730.
Repeat Rules: May be repeated for credit.

Contact Information

Public Health Leadership and Practice
Visit Program Website (http://www.sph.unc.edu/phlp/)

Chair
Vaughn M. Upshaw
vupshaw@unc.edu

Public Health Leadership and Practice
phlp@unc.edu

DEPARTMENT OF PUBLIC POLICY (GRAD)

Research and Faculty Expertise

UNC Public Policy faculty members have strengths in six broad areas of policy research:

Education and Labor Markets

Public policy research in the area of education policy includes evaluation of policies, programs, and schools in K–12 education, early childhood education, and post-secondary education. In addition, faculty interests include how educational policies affect inequality in student, teacher, and school outcomes. Other topics on labor markets in the United States include policies that impact working families, tax policies, self-employment, professional/occupational licensing, and the link between higher education and the labor market. (Related faculty: Alinor, Davis, Gitterman, Goldsmith, Handa, Hemelt, Lauen, Moulton, Najam)

Environment and Human Welfare

Public policy research in the area of environment and human welfare (including health) focuses on climate change, energy policy, and environmental and natural resource management policies in national, state, and developing country contexts. (Related faculty: Carnovale, Handa, Hsu)

Social Policy and Inequality

Public policy research focuses on the ways that social policies ameliorate or exacerbate disparities within and between groups. Specific research expertise includes social safety-net policies, innovative policy incentives (such as cash transfer incentives in developing countries), marriage, and women's reproductive health and rights. This area also includes the study of politically relevant identity groups, such as racial and ethnic minorities groups, low-income individuals, women, members of LGBTQ* communities, and immigrants. (Related faculty: Addo, Alinor, Davis, Gitterman, Goldsmith, Gutierrez, Handa, Hemelt, Kim, Kreitzer, Krome-Lukens, Moulton, Preiss, Rubalcaba, Schechtl)

Health Policy, Bioethics, and Human Rights

Public policy research in health policy — domestically and globally — includes a focus on mental health and substance abuse; maternal, reproductive, and infant health; AIDS and infectious disease control; environmental health; health insurance and managed care; and biomedical and behavioral research. Much of this research is focused on improving health behaviors and outcomes, reducing health inequalities, understanding the economic and institutional basis of effective policies, and exploring ethical and rights-based approaches to health. (Related faculty: Gitterman, Gutierrez, Handa, Kreitzer, MacKay, Meier, Rubalcaba)

International Development Policy

Public policy research in this area explores the interplay between economics, politics, and human rights approaches in shaping development policy. Specific topics include the household and community determinants of human capital investment; the impact of social programs and policies on poverty, migration, and human development; household barriers to labor market participation; drivers of civil conflict; corruption; natural resource governance; poverty and environment trade-offs and synergies; energy poverty; aid accountability; public opinion regarding foreign direct investment; the human right to health. (Related faculty: Gutierrez, Handa, Meier, Najam, Sullivan)

Global Conflict and Cooperation

Public policy research in this area includes challenges where the causes and consequences extend beyond the borders of any one country. Faculty study how effectively national governments, transnational organizations, and the institutions of global governance respond to these global issues. Specific areas of expertise include the impact of international/regional economic integration on labor standards; the effects of foreign economic and military aid; external interventions into domestic armed conflicts; how international law affects public health, international accountability, and anti-corruption efforts; international migration; and international cooperation to address critical environmental issues. (Related faculty: Gitterman, Meier, Najam, Shadmehr, Sullivan)

M.P.P. Admission

To apply to the dual bachelor's-graduate degree (M.P.P.) applicants must be currently enrolled undergraduate students at UNC—Chapel Hill. Applications for admission open in the summer/fall of students senior year and applications must be received by the posted deadline. Admitted students will begin enrolling in graduate M.P.P. courses the spring of their senior year as they complete their undergraduate degree. For information on pre-requisites, curriculum, academic check-lists, financial aid, and internships, please see UNC M.P.P (https://publicpolicy.unc.edu/mpp/).

Ph.D. Admission

Students are admitted to the doctoral program in public policy from diverse backgrounds in both academic preparation and experience. In preparation for doctoral study, applicants should have completed some coursework in microeconomics, basic statistics, and quantitative analysis (including multivariable calculus); a master's degree and some public policy-related work experience are desirable. All entering students are also required to take a math and statistics review course (PLCY 800) immediately prior to the beginning of their first semester.

Applications for admission in the fall semester must be received no later than the posted deadlines for the following fall semester. Applications must be received by the deadline to receive full consideration for Graduate School competitive awards. Applicants from non-English-speaking countries who do not have a degree from a U.S. institution must submit results of the Test of English as a Foreign Language (TOEFL). Factors considered in the application review include the academic transcripts, class rank, references, statements of interest, fit with faculty research clusters, and professional experience.

Financial Assistance

Students who apply by the deadline and who are admitted will be considered for a range of financial support, including Graduate School fellowships, teaching assistantships, and research assistantships. Many awards grant full tuition and health insurance coverage, substantially increasing their value to the student. Prospective students are encouraged to contact faculty members whose research is in areas of their potential interest and experience.

Research Centers and Institutes

A range of University of North Carolina research centers and institutes, many of which conduct nationally and internationally distinguished

policy-related research, extend research opportunities for PhD students. Examples include the following:

Carolina Population Center

Conducts internationally distinguished research to benefit world populations; train the next generation of population scholars; build skills, capacity, and improved methodologies; and disseminate data and findings to population professionals, policymakers, and the public.

Data-Driven EnviroLab (DDL)

The Data-Driven EnviroLab is an interdisciplinary and international group of researchers, scientists, programmers, and visual designers. The DDL uses innovative data analytics to distill signals from large-scale and unconventional datasets and develop policy solutions to contemporary environmental problems. Working with scholars and policymakers across the globe, the DDL strives to strengthen environmental policy at all levels. The DDL is based at the Institute for Environment at UNC at the University of North Carolina Chapel Hill and is academically affiliated with the Department of Public Policy.

Education Policy Institute at Carolina (EPIC)

EPIC's mission is to conduct rigorous, relevant education research and evaluation to expand opportunities for students, educators, schools, and communities. EPIC engages in this work in close partnership with practitioners and policymakers to promote high-quality and equitable learning opportunities for all our nation's youth. EPIC is based in the Department of Public Policy.

Frank Porter Graham Child Development Institute

Pursues research to create new knowledge to enhance the lives of children and their families.

Howard W. Odum Institute for Research in Social Science (IRSS)

The oldest institute in the United States for the cooperative study of problems in the general field of social sciences maintains extensive survey and census archives and assists in design and analysis of social research.

The Institute for the Environment

Organizes and supports interdisciplinary environmental science and decision-making research across and beyond the campus on global, national, and North Carolina environmental problems.

For more information, visit the Public Policy website (http://publicpolicy.unc.edu/), or contact Admissions, UNC Public Policy, CB #3435, Chapel Hill, N.C. 27599-3435. Telephone: (919) 962-1600.

M.P.P.

UNC Public Policy offers an accelerated dual bachelor's-graduate Master of Public Policy (M.P.P.) degree. The M.P.P. degree requires 48 credits. Students take graduate M.P.P. courses in the spring semester of their senior year as they complete their undergraduate degree. They receive an M.P.P. in one additional academic year.

Degree Requirements

Program prerequisites: ECON 101, PLCY 210, PLCY 460, and PLCY 581.

The M.P.P. requires 48 credits:

- (8) core M.P.P. courses (26 credits, inclusive of a Maymester seminar and capstone project)
- (3) Track courses
  - Track A—Policy Design and Innovation (9 credits)
  - Track B—Policy Design and Impact Evaluation (9 credits)
- (1) communication (strategic or visual) course (3 credits)
- (1) management/leadership course (3 credits)
- (2) elective/field courses (6 credits)
- (1) M.P.P. professional development/internship seminars (2 credits)

The accelerated dual bachelor's-graduate degree requires an internship and a Maymester seminar. Students should complete the required internship during the summer (preferably) or fall and spring semester (if necessary). The internship allows students to gain experience and apply their knowledge to significant problems in the public, private, or non-profit sectors. M.P.P. students also apply analytical and professional skills in a final capstone policy project.

Doctor of Philosophy

UNC Public Policy offers the Ph.D. degree to students who aim to contribute new knowledge and address major domestic and global policy challenges. The Ph.D. in public policy combines core foundations in theory, empirical and normative analysis, and a policy field area. The core curriculum is designed to help each doctoral student develop and use appropriate theoretical and analytical approaches to address problems in policy areas such as education and labor markets; environment and human welfare; social policy and inequality; health policy, bioethics, and human rights; international development policy; and global conflict and cooperation.

Degree Requirements

Core Courses

Once enrolled, each student completes a set of doctoral-level core courses in applications of interdisciplinary social science theory to public policy issues as well as research design, appropriate research methods (including econometrics), and a specialization in a particular substantive field of public policy. Doctoral students are required to complete 47 hours of coursework, including 29 hours in core courses common to all students and 18 hours in a self-defined policy field. Core courses include

Code	Title	Hours
PLCY 800	Mathematical Preparation for Public Policy and Economics	3
PLCY 801	Design of Policy-Oriented Research	3
PLCY 810	Public Policy Seminar (2 semesters)	2
PLCY 816	Politics and Public Policy Theory	3
PLCY 817	Institutional Analysis for Public Policy	3
PLCY 880	Normative Dimensions of Policy Analysis and Research: Theories, Methods, and Ethical Foundations	3
HPM 881	Introduction to Applied Methods in Health Services Research	3
PLCY 882	Advanced Panel Data Methodology for Public Policy	3
PLCY 888	Advanced Economic Analysis for Public Policy I	3
PLCY 889	Advanced Economic Analysis for Public Policy II	3
Total Hours		**29**

Students who have successfully completed graduate courses elsewhere that approximate these required courses may petition to have up to nine such hours counted toward the Ph.D. in public policy. Courses proposed for transfer must be approved as part of the student's program within the department, and material from those courses may be included as part of the comprehensive doctoral examinations. Students normally spend two years in full-time course work, and somewhat longer if they enter the program without key prerequisite courses or a master's degree in a related field. A dissertation is required.

Policy Field

Each student designs an individual course of study for a policy field. The 18-credit-hour requirement gives students rigorous training in the theory, methods, and subject matter within a substantive policy field. The field area course of study must include both doctoral-level understanding of the subject matter of the policy area and at least three hours of research methods, in addition to the econometrics sequence (HPM 881 and PLCY 882) and research design course (PLCY 801) required for the core. Students take no less than nine credit hours of courses related to the theory and subject matter of their policy field; up to six hours of credits may be taken as independent studies. The remaining six hours of the required policy field credits are normally completed as PLCY 992 and PLCY 994 during master's and dissertation research. The student's additional research methods course should provide them with the ability to design and carry out dissertation research and to continue making scholarly contributions in their chosen field.

Master's Requirements

The M.A. in public policy is available as an option for students who are opting to exit the Ph.D. program prior to completing all requirements for the PhD. In such cases, the student must meet departmental and Graduate School degree requirements for a master's degree, including 30 earned credit hours, two full semesters of residence credit, and completing a thesis (or thesis substitute) project.

For students choosing to exit with the M.A., the 30 credit hours will be earned through core and elective courses, generally completed in the student's first two years in the program.

Students nearing completion of their core courses and intending to exit the program without completing the Ph.D., may petition the director of graduate studies to write an approved thesis substitute with an oral exam defense. The oral defense will occur before at least three committee members and will cover appropriate core course material from the program in lieu of sitting for the written core exam. The thesis substitute format will be determined by agreement between the student and the faculty committee and may include a critical literature review or research paper.

Graduate Minor

Doctoral and master's students not enrolled in the Ph.D. program in public policy may elect to minor in public policy. Requirements for the minor include 15 hours of approved coursework in public policy for doctoral students, or nine credits for master's students, approved by the director of graduate studies in public policy and the student's major department. These credits may not be double-counted as courses required for the student's major degree.

Professors

Daniel Gitterman, American Politics and Public Policy, Social and Health Policy, Labor Market
Sudhanshu Handa, Human Resource Economics, Poverty, Program Evaluation, International Development Policy
Steven Hemelt, Economics of Education, Education Policy, Labor Economics, Policy Design and Evaluation
Douglas L. Lauen, Education Policy, Organizational Theory, Stratification
Douglas MacKay, Social and Political Philosophy, Ethics and Public Policy, Bioethics
Benjamin Mason Meier, Global Health Policy, Justice and Policy
Patricia L. Sullivan, International Security, Comparative Politics, National Security Policy

Associate Professors

Fenaba Addo, Debt and Wealth Inequality with a Focus on Family and Relationships and Higher Education, Union Formation and Economic Strain as a Social Determinant of Health and Well-Being
Carmen Gutierrez, Social Demography, Health Disparities, Inequalities Across Race, Ethnicity, and Citizenship
Angel Hsu, Science and Public Policy, Environmental Policy, Climate Change, Data Science
Rebecca Kreitzer, American Politics and Public Policy, Public Opinion, State Institutions, Women and Politics, Interest Groups
Jeremy Moulton, Public Economics
Joaquin Rubalcaba, Labor and Health Economics, Applied Microeconomics, Public Economics, Environmental Economics
Mehdi Shadmehr, Political Economy, Populism, Revolution and Repression, Censorship, Authoritarian Regimes

Assistant Professors

Malissa Alinor, Racial and Gender Bias, Effects of Organizational Policies, Emotional and Behavioral Responses to Experiencing Bias
Cassandra Davis, Environmental Disruptions to Schooling Communities, Impact of Natural Disasters on Low-Income Communities of Color
Jae Yeon Kim, Policy Implementation, Civic Engagement, Social Policy, Urban and Local Politics, Computational Social Science
Rafiuddin Najam, Development, Economics of Education, Conflict and Fragility
Manuel Schechtl, Social Stratification, Wealth Inequality

Teaching Associate Professors

William Goldsmith, History and Public Policy, Education Policy, Economic Development Policy
Anna Krome-Lukens, History and Public Policy, Welfare Policy, Higher Education, Food Policy
Joshua Preiss, Ethics and Public Policy, Social and Political Philosophy, Political Economy, Ethics and Economics

Teaching Assistant Professors

Maria Carnovale, Science and Technology Policy, Human Rights, Public Economics, Environmental Economics

PLCY

Advanced Undergraduate and Graduate-level Courses

PLCY 425. Risks, Shocks, and the Safety Net. 3 Credits.
Many risks and shocks can make individuals and families vulnerable to economic hardship. This course examines America's social policy regime through a wide-ranging investigation of the origins, development, and future of critical features of our social safety net. We pay particular attention to challenges emerging in the era of globalization.

Rules & Requirements
Grading Status: Letter grade.

PLCY 430. Analysis of National Security Policy. 3 Credits.
Course explores contemporary threats to national security, approaches to national security strategy, policy instruments, the role of military force, and the policy-making process.

Rules & Requirements
Grading Status: Letter grade.
Same as: PWAD 430, POLI 430.

PLCY 435. Designing for Impact: Social Enterprise Lab. 3 Credits.
Focuses on the entrepreneurial process to solve social or environmental issues. Using modern methods and tools, students engage in experiments to test hypotheses around problem definition, opportunity recognition and solutions. Experience gained in this course enable students to launch their own social enterprise or join social enterprises in progress.

Rules & Requirements
Grading Status: Letter grade.

PLCY 450. Internal and Interpersonal Conflict Management. 3 Credits.
This course provides a platform for students to build upon existing communication skills as well as develop new ones, to understand how and why we react to conflict, to strengthen our emotional intelligence, and to recognize and express our needs and the needs of others in resolving conflict. While geared toward students from all disciplines, it is specifically aimed at students who wish to work in government entities, NGOs, and international organizations where stress and conflict may be present to a high degree, and where managing both internal and interpersonal conflicts is a requirement for success. Previously PLCY 330.

Rules & Requirements
IDEAs in Action Gen Ed: COMMBEYOND.
Grading Status: Letter grade.
Same as: PWAD 450.

PLCY 460. Quantitative Analysis for Public Policy. 4 Credits.
Application of statistical techniques, including regression analysis, in public policy program evaluation, research design, and data collection and management. Honors version available.

Rules & Requirements
IDEAs in Action Gen Ed: FC-QUANT, FC-LAB.
Grading Status: Letter grade.

PLCY 475. The Political Economy of Food. 3 Credits.
This course examines the political and economic dimensions of the food we eat, how it is produced, who eats what, and related social and environmental issues, both domestic and international, affecting the production, pricing, trade, distribution, and consumption of food. Honors version available.

Rules & Requirements
Grading Status: Letter grade.
Same as: ENEC 475.

PLCY 483. Natural Disasters, Inequality, and Public Policy. 3 Credits.
Growing research shows that socially marginalized communities are disproportionally more at risk from environmental hazards and thus unable to recover fully. This course is designed to introduce students to natural disasters, their impact on marginalized populations, and the policies that help or hurt communities from recovering. We will also address topics of systemic racism, equity, and think critically about terms such as vulnerability and resiliency to determine their applicability in the 21st century.

Rules & Requirements
IDEAs in Action Gen Ed: FC-POWER.
Grading Status: Letter grade.

PLCY 485. Poverty, Health, and Human Development in Low Income Countries. 3 Credits.
This course provides an understanding of how poverty is defined, the consequences of poverty, and policies to reduce poverty. It explores the determinants of human development outcomes from an interdisciplinary perspective (with a heavy economics focus).

Rules & Requirements
Requisites: Prerequisite, ECON 101.
Grading Status: Letter grade.
Same as: AAAD 401.

PLCY 490. Special Topics in Public Policy. 3 Credits.
Special topics in public policy for undergraduate and graduate students.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 9 total credits. 3 total completions.
Grading Status: Letter grade.

PLCY 493H. Internship in Public Policy and Global Affairs. 6 Credits.
This course offers students an opportunity to reflect upon and enhance their internship experience. The external internship must be designed to allow the student to do policy-relevant research, policy analysis, program evaluation, and/or policy advocacy under the supervision of a mentor at a nonprofit, nongovernmental, or governmental organization (students will not receive credit for any partisan or campaign-based internship, regardless of their duties).

Rules & Requirements
IDEAs in Action Gen Ed: HI-INTERN.
Grading Status: Letter grade.

PLCY 496. Independent Study/Reading in Public Policy. 1-6 Credits.
By special arrangement and permission of the instructor. Independent reading in public policy.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

PLCY 505. Data Science for Public Policy and Decision Making. 4 Credits.
To introduce advanced undergraduates and graduate students to the three basic purposes of data science: to describe the social world, to make predictions for policy planning, and to establish causal relationships. The focus of the course will be on examples and applications rather than statistical and mathematical foundations, but will require hands-on computer programming and data analysis.

Rules & Requirements
IDEAs in Action Gen Ed: FC-QUANT.
Requisites: Prerequisite, PLCY 460, or equivalent.
Grading Status: Letter grade.

PLCY 527. Applied Public Finance. 3 Credits.
This course provides a foundation in public finance theory and applications. Students learn to analyze taxation policies and expenditures on income redistribution, programs for the poor (e.g., TANF), and social insurance programs (e.g., Social Security). Honors version available.

Rules & Requirements
Requisites: Prerequisite, ECON 310 or 410, or PLCY 410 or 788.
Grading Status: Letter grade.

PLCY 530. Educational Problems and Policy Solutions. 3 Credits.
Reviews current debates and policy solutions in education. Topics analyzed through three of the most commonly used evaluative criteria: equity, efficiency, and effectiveness. Topics: equality of educational opportunity, racial segregation, the black-white test score gap, school choice, and the use of incentives to promote increased performance. Lecture, case studies, discussion. Honors version available.

Rules & Requirements
IDEAs in Action Gen Ed: FC-KNOWING.
Grading Status: Letter grade.

PLCY 540. Racial Wealth Inequality and Public Policy. 3 Credits.
This course critically examines the causes, consequences of racial wealth inequality and social policies to address these disparities. More specifically, we will examine the merits and limitation of various paradigms aimed at explaining these persistent disparities, explore how economic inequality is affected by race, systemic racism, and sociodemographic factors (education, gender, marriage) and identify evidence-based policy options and proposals for reducing wealth inequality.

Rules & Requirements
Grading Status: Letter grade.

PLCY 581. Research Design for Public Policy. 3 Credits.
Students will explore the scientific method as applied to policy research. They will formulate testable policy research questions, become familiar with methods for conducting policy research, and learn to think critically about causal inference. Honors version available.

Rules & Requirements
IDEAs in Action Gen Ed: FC-KNOWING, RESEARCH.
Requisites: Pre- or corequisite, PLCY 460.
Grading Status: Letter grade.

PLCY 590. Special Topics in Public Policy. 3 Credits.
Special topics for undergraduate and graduate students.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 9 total credits. 3 total completions.
Grading Status: Letter grade.

PLCY 596. Independent Study/Reading in Public Policy. 1-6 Credits.
Permission of the instructor. Independent reading in public policy.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

PLCY 661. Global Health Law & Policy. 3 Credits.
Coursework will focus on public policy approaches to global health, employing interdisciplinary methodologies to understand selected public health policies, programs, and interventions. For students who have a basic understanding of public health. Course previously offered as PLCY/HPM 565.

Rules & Requirements
Grading Status: Letter grade.
Same as: HPM 661.

PLCY 662. Global Health and Human Rights. 3 Credits.
Course focuses on rights-based approaches to health, applying a human rights perspective to selected public health policies, programs, and interventions. Students will apply a formalistic human rights framework to critical public health issues, exploring human rights as both a safeguard against harm and a catalyst for health promotion. Course previously offered as PLCY 570/HPM 571.

Rules & Requirements
Grading Status: Letter grade.
Same as: HPM 662.

PLCY 690. Special Topics in Public Policy. 3 Credits.
Special topics for graduate or undergraduate students.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 9 total credits. 3 total completions.
Grading Status: Letter grade.

PLCY 691H. Honors in Public Policy. 3 Credits.
Permission of the instructor. In preparing their honors theses, students will formulate a testable policy research question, design a study to answer this research question, and learn to think critically about causal inference.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Requisites: Prerequisites, PLCY 460 and 581.
Grading Status: Letter grade.

PLCY 692H. Honors in Public Policy. 3 Credits.
Permission of the instructor. For senior public policy majors. Directed research for the honors thesis. Students may only receive credit for one semester of this course. An application for enrollment must be completed by the student and approved by the director of the public policy honors program.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Requisites: Prerequisite, PLCY 691H.
Grading Status: Letter grade.

PLCY 696. Independent Study/Reading in Public Policy. 1-6 Credits.
Permission of the instructor. Independent reading in public policy.

Rules & Requirements
Grading Status: Letter grade.

PLCY 698. Senior Capstone in Public Policy. 4 Credits.
Students apply knowledge and skills gained in the major to a real-world policy problem. In small teams, students produce actionable, client-centered, public policy analysis for a government agency or nonprofit organization. Students also develop skills in team work, leadership, communication, professional etiquette, and time management.

Rules & Requirements

IDEAs in Action Gen Ed: HI-SERVICE, COMMBEYOND.
Requisites: Prerequisite, PLCY 460; Pre- or corequisite, PLCY 581.
Grading Status: Letter grade.

Graduate-level Courses

PLCY 701. Professional Development for Public Policy I. 1 Credits.
This course will use a combination of readings, experiential learning, guest speakers and lectures to assist students in preparing for job searches and employment. We will address working in professional settings, networking, and effective communication. Students will reflect on their internships and use those experiences to clarify their career trajectories and policy field interests. In addition, students will generate professional resumes and cover letters.

Rules & Requirements
Grading Status: Letter grade.

PLCY 702. Professional Development for Public Policy II. 1 Credits.
This course will help prepare MPP candidates for the job search and future employment. Students will revise professional resumes and cover letters; create a LinkedIn professional identity; search for available online opportunities; network with UNC alum; and apply for post-graduate job positions.

Rules & Requirements
Grading Status: Letter grade.

PLCY 710. The Discipline and Practice of Public Policy. 3 Credits.
This course introduces students to the theoretical foundations and the analytical techniques to examine policy problems and design policy solutions. The course provides opportunities to put these foundations and techniques into practice by examining cases and by completing a set of memo writing assignments. It also conveys an appreciation for the ethical issues, values, and political context of government policy.

Rules & Requirements
Grading Status: Letter grade.

PLCY 715. Data Science and Public Policy. 4 Credits.
This course introduces data science coding, software, analysis, visualization and communication for public policy. It provides practical and applied skills for understanding the entire data analysis pipeline - from data mining to wrangling, visualization and statistical analysis. Implementation of statistical modeling and inference will be covered.

Rules & Requirements
Requisites: Prerequisite, PLCY 460.
Grading Status: Letter grade.

PLCY 720. Economic Analysis and Public Policy. 4 Credits.
This course explores the application of economic analysis in public policy, with an emphasis on public finance. The first part of the course develops the concepts, techniques, and framework of analysis, including externalities, public goods, and social welfare analysis. The second part applies the framework and techniques to public policy and public finance questions. Examples include social insurance, social security, health insurance, unemployment insurance, and taxation.

Rules & Requirements
Grading Status: Letter grade.

PLCY 725. Politics, Advocacy and Public Policy. 3 Credits.
This core course provides an overview of the politics of public policy. The primary objective is to empower students with the knowledge and skills necessary for understanding and influencing the making of public policy.

Rules & Requirements
Grading Status: Letter grade.

PLCY 730. Ethics and Public Policy. 3 Credits.
This course offers students an advanced, practice-oriented overview of the ethical dimensions of public policy. Students will learn to recognize the ethical questions raised by public policy problems, develop and defend solutions to these questions, and complete professional policy briefs and analyses concerning ethically contentious policy problems. The course will also reflect on the appropriate role of ethical thinking in public policy and the professional obligations of a public policy leader.

Rules & Requirements
Grading Status: Letter grade.

PLCY 735. Strategic Communications and Public Policy. 3 Credits.
This course examines and applies the role of communications in shaping, implementing, and evaluating public discourse and policies. Students will learn about strategic communication tools and techniques in the context of public policy, focusing on effective advocacy, persuasion, and engagement. By the end of the course, students will understand the benefits of strategic communication campaigns and be equipped to lead such campaigns from conception to completion, at both small and large scales.

Rules & Requirements
Grading Status: Letter grade.

PLCY 740. Personal and Professional Conflict Management. 3 Credits.
This course aims to provide students with the tools necessary to most effectively engage in personal and professional conflicts, by focusing on both internal and external factors and influences. The first half of the course will be focused on the internal conflicts we struggle with and dedicated to understanding ourselves better. The second half of the course will be dedicated to managing conflicts externally, both in a personal setting and in a professional setting.

Rules & Requirements
Grading Status: Letter grade.

PLCY 745. Mixed Methods and Program Evaluation. 3 Credits.
Students will be introduced to the mixed-methods program evaluation design; learn how to collaborate with diverse partners and funders in developing and implementing a rigorous evaluation using mixed methods; study the fundamentals of designing exploratory, process, implementation, and impact evaluations; and learn how to select an evaluation design that best addresses the evaluation questions.

Rules & Requirements
Grading Status: Letter grade.

PLCY 748. Design Thinking for the Public Good. 3 Credits.
This course will train an interdisciplinary group of graduate students to apply the mindsets, methods, and process associated with design thinking (i.e. human-centered design) to solve real world problems. Design thinking is a creative problem solving process that prioritizes ethnographic market research, convergent and divergent thinking, as well as rapid prototyping. Students will collaborate with community members to design solutions (products, services, etc.) that are desirable, feasible, and viable.

Rules & Requirements
Grading Status: Letter grade.
Same as: HBEH 748.

PLCY 750. Quantitative and Qualitative Methods for Social Sciences and Policy Research. 3 Credits.
This course presents an introduction to qualitative and quantitative research methods. It addresses the theoretical, ethical, and practical aspects of conducting research in local and global contexts. Students will learn how to collect and analyze empirical information from multiple sources such as interviews, focus groups, written records, and surveys. Students will develop the skills necessary to understand and critique the methods of evaluation in others' work.

Rules & Requirements
Grading Status: Letter grade.
Same as: GLBL 750.

PLCY 755. NONPROFITS AND PUBLIC POLICY. 3 Credits.
Nonprofit organizations are organized groups of people that form for the purpose of providing goods and services. This course will explore the integral relationship between nonprofits and public policy. Students will develop a comprehensive understanding of the role of public policy in shaping nonprofits, the role of nonprofits in shaping and implementing public policy, and how nonprofits through leadership and management can maximize their reach. First, we examine the mechanics of non-profit leadership and management. Second, we examine how public policy shapes nonprofits. Third, we will examine how nonprofits influence public policy.

Rules & Requirements
Grading Status: Letter grade.

PLCY 760. Migration and Health. 3 Credits.
With a focus on Latin American migration to the U.S., this course introduces students to the inter-relationships between migration and health. Students will gain an understanding of the theories of migration and the ways in which immigration and settlement policies influence the health and well-being of immigrant populations.

Rules & Requirements
Grading Status: Letter grade.

PLCY 761. Seminar in Education Policy I. 3 Credits.
Covers economic and sociological theories on the determinants of learning and the demand for schooling. Topics include stratification, school effects, schooling process and socialization, family, peer and contextual effects, and the education production function.

Rules & Requirements
Grading Status: Letter grade.

PLCY 762. Seminar in Education Policy II. 3 Credits.
Explores educational policy problems and the evidence and methods used to assess such problems. Topics include racial social gap, school choice, educational accountability, assessment, standard setting, teacher effects, resource allocation, and early childhood education.

Rules & Requirements
Grading Status: Letter grade.

PLCY 763. The Private-Public Relationship: Conflict and Cooperation. 3 Credits.
This course examines the relationships between enterprises and governments that have so often perverted the public interest and yet have generated such economic bounty. We will consider the government's role in structuring, regulating, and making markets as well as the conflicts that arise from power struggles between firms and the state. While the U.S. context is the focus for the course, we will also consider trends in other nations as well as global business governance.

Rules & Requirements
Grading Status: Letter grade.

PLCY 765. Leadership in Public Policy. 3 Credits.
This class will provide students with a combination of lectures, assessments, workshops, and case studies to consider the role of policy leadership in public, non-profit and private enterprises related to and what leadership means to them.

Rules & Requirements
Grading Status: Letter grade.

PLCY 770. Impact Investing and Community Finance. 3 Credits.
Provides a detailed introduction to impact investing, which is a high potential approach to long-term social and financial value creation and a tool for communities to leverage previous public resources to acquire private and philanthropic investments. Addresses the complex dynamics between investors and social ventures, challenges around defining and measuring social impact, and the conflict between financial and social return. Students will learn how philanthropy and private investment can augment public investment.

Rules & Requirements
Grading Status: Letter grade.

PLCY 785. Professional Communication: Strategies & Tools to Move Ideas Forward. 3 Credits.
As professionals, we need reliable methods to better collaborate with our teams and connect to our audiences. This course will uncover common missteps in how we communicate about the ideas that we care about. From concept development to final presentation, we will walk through structures for enhanced interoffice collaborations, communicating effectively to management, and delivering successful interoffice and public presentations so that our ideas are given every chance to thrive.

Rules & Requirements
Grading Status: Letter grade.

PLCY 790. Social Entrepreneurship. 3 Credits.
This graduate-level course aims to offer a broad overview of the emerging field of social entrepreneurship. Social entrepreneurship is about creating novel, scalable, and sustainable solutions for critical social problems, using tools and techniques commonly associated with business entrepreneurship. Students will explore concepts, theories, and applications associated with social entrepreneurship. The course will involve reading, discussions, presentations, teamwork, and written assignments.

Rules & Requirements
Grading Status: Letter grade.

PLCY 795. Leading for Impact Across Sectors. 3 Credits.
This course will help students understand the power of cross-sector collaboration and effective strategies to lead social and environmental change across sectors. Co-taught by an academic and practitioners, we use case studies, outside speakers, seminars, and debate to explore evolving models of cross sector collaboration to advance social impact. Students learn motivations, operations, and engagement models for stakeholders in different sectors and strategies to influence these stakeholders to advance societal change.

Rules & Requirements
Grading Status: Letter grade.

PLCY 796. Mentored Research in Public Policy. 1-3 Credits.
This course provides students with mentored research opportunities to apply their research, analytical, and writing skills. Students will work one-on-one with a faculty member on policy research and advance their knowledge of a specific policy field area. Permission of the department required.

Rules & Requirements
Repeat Rules: May be repeated for credit. 3 total credits. 3 total completions.
Grading Status: Letter grade.

PLCY 799. Selected Topics in Public Policy. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PLCY 800. Mathematical Preparation for Public Policy and Economics. 3 Credits.
An intensive preparation course in mathematical and statistical analysis for public policy and economics. Reviews and introduces topics in linear algebra, calculus, optimization and mathematical statistics, and prepares students for PLCY 888 and PLCY 889. Also serves as a prerequisite for HPM 881, which satisfies one methods requirement in the Ph.D. program.

Rules & Requirements
Grading Status: Letter grade.

PLCY 801. Design of Policy-Oriented Research. 3 Credits.
Logic of designing research for the analysis of planning problems and the formulation of public policies. Elements of research design, case study, survey research, quasi-experimental designs, and the social experiment are covered.

Rules & Requirements
Grading Status: Letter grade.
Same as: PLAN 801.

PLCY 802. Advanced Seminar in Research Design: Data, Methods, and Evaluation. 3 Credits.
Three main objectives: to deepen students' understanding of important issues and topics in the design of empirical research, to further develop students' ability to critically evaluate research designs and policy-related products, and to aid in developing a research paper, dissertation, or other product.

Rules & Requirements
Grading Status: Letter grade.
Same as: PLAN 802.

PLCY 805. Public Policy Workshop. 1-3 Credits.
For graduate students in Public Policy Analysis who are undertaking team projects under faculty supervision. Projects vary from year to year. All will relate to public policy and will involve interaction with real clients. The intent is to provide students with an opportunity to apply theory and techniques of policy analysis in actual problem situations.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PLCY 810. Public Policy Seminar. 1 Credits.
Weekly forum for public policy scholars and officials to discuss the relationships between policy research and policy outcomes. Presentations by invited speakers and doctoral students.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PLCY 816. Politics and Public Policy Theory. 3 Credits.
Students build a theoretical foundation about the politics of policymaking. We examine the governmental institutions and actors that make policy decisions, incentive structures, and influences that shape these decisions as well as the macro-environment within which policy demands arise and policy decisions are made.

Rules & Requirements
Grading Status: Letter grade.

PLCY 817. Institutional Analysis for Public Policy. 3 Credits.
Course examines the role of institutions in the analysis of public policy formulation, implementation, and evaluation. Consider how institutions are used to address market failures, how formal and informal institutions form, persist, and change, and theoretical and empirical approaches for studying the role of institutions.

Rules & Requirements
Grading Status: Letter grade.

PLCY 880. Normative Dimensions of Policy Analysis and Research: Theories, Methods, and Ethical Foundations. 3 Credits.
Covers theories of distributive justice and how ethical arguments can be used as a basis for public policy decision-making.

Rules & Requirements
Grading Status: Letter grade.

PLCY 882. Advanced Panel Data Methodology for Public Policy. 3 Credits.
Students will apply models and statistical techniques to original PLCY research; understand major techniques used to estimate causal relationships in quasi-experimental designs, including panel data and simultaneous equations models; and gain intuition and skills about the art of econometrics, including techniques for using complex survey data and handling missing data.

Rules & Requirements
Grading Status: Letter grade.

PLCY 885. Topics in Advanced Quantitative Methods for Public Policy. 3 Credits.
This course introduces PhD students to selected topics in advanced quantitative analysis. Topics will vary from year to year depending on the interests of the instructor. Topics include limited dependent variables and issues of truncation and censoring, survival and event study methods, estimation of time-series panel data models with low T and large N, and machine learning approaches for prediction problems in public policy.

Rules & Requirements
Requisites: Prerequisite, PLCY 882.
Grading Status: Letter grade.

PLCY 888. Advanced Economic Analysis for Public Policy I. 3 Credits.
This course introduces microeconomic theory using multivariate calculus and constrained optimization. Topics covered include consumer theory, producer theory, market equilibrium, taxes, and market power. Applied public policy examples are incorporated.

Rules & Requirements
Requisites: Prerequisite, PLCY 800.
Grading Status: Letter grade.
Same as: PLAN 788.

PLCY 889. Advanced Economic Analysis for Public Policy II. 3 Credits.
This course provides further applications of economic theory to public policy including risk and uncertainty, information economics, general equilibrium and welfare policy, externalities, public goods and taxation, and game theory.

Rules & Requirements
Requisites: Prerequisite, PLCY 888.
Grading Status: Letter grade.
Same as: PLAN 789.

PLCY 895. Topics in Poverty and Human Resources. 3 Credits.
Topics covered include poverty, welfare, and human resources from an economic perspective. For students wanting to specialize in social and behavioral approaches to the study of population and demographic phenomena.

Rules & Requirements
Grading Status: Letter grade.

PLCY 901. Independent Study. 1-15 Credits.
This course allows graduate students in public policy analysis to receive credit for work on individual projects, designed in conjunction with a faculty supervisor. It is intended for students who are interested in pursuing academic topics not covered in scheduled courses.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

PLCY 992. Master's (Non-Thesis). 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

PLCY 993. Master's Research and Thesis. 3 Credits.
Individual research in a special field under the direction of a member of the department.

Rules & Requirements
Repeat Rules: May be repeated for credit.

PLCY 994. Doctoral Research and Dissertation. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

Contact Information

Department of Public Policy
Visit Program Website (http://publicpolicy.unc.edu)

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DEPARTMENT OF RELIGIOUS STUDIES (GRAD)

The graduate program in religious studies at the University of North Carolina at Chapel Hill deals with religion both as a distinctive human experience and as a mode of culture, history, and society. Both orientations define religion as a broad area of human existence, and students are encouraged to explore the tension between those two general approaches. The interests of the department's faculty express the variety of methodological orientations to this study. Faculty members in other departments of the University offer strong interdisciplinary support.

The Graduate School of the University offers two degrees in religious studies: the master of arts and the doctor of philosophy. All students are admitted to the doctoral program and requirements depend on whether the entering student has been awarded a master's degree in religious studies or an affiliated discipline prior to matriculating at UNC. The Department of Religious Studies also sponsors the joint Duke–UNC Graduate Certificate in Middle East Studies.

The Ph.D. program is primarily intended to prepare students for a career in university and college teaching and research in religious studies. It currently offers specialization in ancient Mediterranean religions, Islamic studies, medieval and early modern studies, religion in the Americas, religion and culture, and religions of Asia.

A. Those who enter with an M.A. from another institution should expect to take at least 36 hours of course work. Other requirements in the doctoral program include

- Completion of requirements specific to one of the specialty fields of study noted above, including RELI 700 and "gateway" graduate seminars
- A set of written and oral doctoral examinations specific to the student's field of study
- Demonstrated reading competence in two modern foreign research languages, and
- A doctoral dissertation and an oral defense of the dissertation

B. Students who enter the doctoral program without an M.A. in religious studies or an affiliated discipline will begin the program with an introduction to the general problems and methods in the study of religion. Specific requirements include

- Thirty hours of course credit, including RELI 700 and one "gateway" graduate seminar
- A written comprehensive examination in the student's specific field of study
- A thesis of three to six credits and an oral defense of the thesis (included in the thirty hours), and
- Demonstrated competence in a modern foreign research language

Students who complete their M.A. in our department and continue with doctoral work complete another 18 hours of coursework plus the requirements below.

- An additional "gateway" graduate seminar if required by your field of study
- A set of written and oral doctoral examinations specific to the student's field of study
- Demonstrated reading competence in two modern foreign research languages, and
- A doctoral dissertation and an oral defense of the dissertation

Additional information about the graduate program in religious studies is available at the department's website (http://religion.unc.edu/).

Details on the joint Duke–UNC Graduate Certificate in Middle East Studies are available at this website (http://ncmideast.org/courses/graduate-certificate/).

Following the faculty member's name is a section number that students should use when registering for independent studies, reading, research, and thesis and dissertation courses with that particular professor.

Professors

Barbara Ambros (57), Japanese Religions, East Asian Religions, Buddhism, Religion in Asian Diaspora Communities
Yaakov S. Ariel (48), Judaism and Evangelical Christianity in America, Messianic Movements and Missions, Christian-Jewish Relations
Bart D. Ehrman (19), New Testament Interpretation and Textual Criticism, Early Christianity
Juliane Hammer (53), Islamic Studies, Gender in American Muslim Communities, Modern Muslim Approaches to the Qur'an
Jodi Magness (54), Archaeology of Palestine, Qumran and the Dead Sea Scrolls, Ancient Synagogues, Early Judaism
Evyatar Marienberg (17), Rabbinic Judaism and Jewish Law, Medieval and Early Modern Studies, Contemporary Catholicism
Todd Ramón Ochoa (65), Religion in Latin America and the Caribbean, Ethnography of Religion, Critical Cultural Theory
Zlatko Plese (49), Religion in Late Antiquity, Greco-Roman Philosophy and Religion, Gnosticism and Manichaeism

Associate Professors

Brandon Bayne (61), Religion in the Americas, Global Christianity
Jessica A. Boon (55), Medieval and Early Modern Christian Thought, Mystical Traditions, Spain and the New World, Theories of Embodiment
Andrea Cooper (59), Modern Jewish Thought and Culture
Joseph Lam (64), Hebrew Bible, Biblical Hebrew, Comparative Semitic Grammar
David Lambert (15), Hebrew Bible, Ancient Mediterranean Religions
Lauren Leve (56), Buddhism in South and Southeast Asia, Ethnography of Religion, Globalism and Postcoloniality
Hugo Mendez (45), Ancient Mediterranean Religions, Cultural History of New Testament Texts, Early and Late Antique Christianity, Greek
Randall Styers (52), Cultural History of the Study of Religion, Modern Western Religious Thought, Critical Cultural Theory
Brendan Thornton (40), Religion in Latin American and the Caribbean, Evangelical Christianity, Ethnography of Religion

Assistant Professors

Youssef Carter (18), Sufism and Sufi Movements; Islam in West Africa and United States; Religion in the African Diaspora; Black Atlantic and Decolonial Studies; Anthropology of Religion
Eden Consenstein (28), Religion and Culture, Religion in the Americas, Religion, Media, and Technology
Abelardo de la Cruz (039), Religion in the Americas, Mesoamerican Religions, Nahuatl
Maharshi Vyas (20), Hinduism, South Asian Religions

Adjunct Professors

Cemil Aydin, Modern Middle Eastern History, Modern Asian History
Philip Gura, Religion and American Literature
Charles Kurzman, Islamic Movements
David Morgan, Material Religion
James Rives, Ancient Mediterranean Religions
Omid Safi, Islamic Studies

Adjunct Associate Professors

Anna Barry Bigelow, Islamic Studies, Religions of South Asia, Religion and Conflict
Christian O. Lundberg, Critical Cultural Theory, Rhetoric, Cultural Studies
Barry Saunders, Ritual Studies and Biomedicine
Margaret Wiener, Indonesian Religions
Joseph Winters, African American Religion, Critical Cultural Theory
Molly Worthen, North American Religious and Intellectual History

Professors Emeriti

Carl W. Ernst
David Halperin
Peter I. Kaufman
Laurie Maffly-Kipp
William J. Peck
Jack M. Sasson
John Van Seters

RELI

Advanced Undergraduate and Graduate-level Courses

RELI 401. Introductory Biblical Hebrew I. 3 Credits.
The first part of a two-semester introduction to the grammar of biblical Hebrew.

Rules & Requirements
Grading Status: Letter grade.
Global Language: Level 1.

RELI 402. Introductory Biblical Hebrew II. 3 Credits.
The second part of a two-semester introduction to the grammar of biblical Hebrew.

Rules & Requirements
Requisites: Prerequisite, RELI 401; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Global Language: Level 2.

RELI 403. Intermediate Classical Hebrew I. 3 Credits.
A consolidation of the fundamentals of classical Hebrew grammar via readings of biblical texts of various genres (including both prose and poetry).

Rules & Requirements

IDEAs in Action Gen Ed: GLBL-LANG.
Requisites: Prerequisite, RELI 402; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Global Language: Level 3.

RELI 404. Intermediate Classical Hebrew II. 3 Credits.
Further readings of classical Hebrew texts, focusing on biblical poetry as well as early postbiblical material (e.g., nonbiblical texts from Qumran, Mishnah/Tosefta).

Rules & Requirements
Requisites: Prerequisite, RELI 403; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Global Language: Level 4.

RELI 409. Greek New Testament. 3 Credits.
Rules & Requirements
Requisites: Prerequisite, GREK 222; Permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Same as: GREK 409.
Global Language: Level 6.

RELI 410. Aramaic/Rabbinic Hebrew. 3 Credits.
Reading texts in rabbinic Hebrew or in biblical and/or talmudic Aramaic, with appropriate grammatical instruction.

Rules & Requirements
Requisites: Prerequisites, RELI 403 and 404; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

RELI 411. Advanced Akkadian. 3 Credits.
Readings in literary, epistolary, and juridical texts.

Rules & Requirements
Requisites: Prerequisites, RELI 403 and 404.
Grading Status: Letter grade.

RELI 412. Ugaritic. 3 Credits.
Readings in the alphabetic texts of Ras Shamra and a study of the elements of Ugaritic grammar.

Rules & Requirements
Requisites: Prerequisites, RELI 403 and 404.
Grading Status: Letter grade.

RELI 413. Biblical Coptic and Early Egyptian Monasticism. 3 Credits.
Coptic, the last stage of Egyptian, a living language in the Roman and Byzantine period. Thorough grounding in the grammar of the Sahidic dialect as a basis for reading biblical monastic and Gnostic texts.

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING or FC-PAST.
Grading Status: Letter grade.

RELI 414. Syriac. 3 Credits.
An introduction to the grammar of Classical Syriac for the purpose of reading Syriac Christian texts from late antiquity. Knowledge of another Semitic language (e.g., Hebrew, Arabic) would be an asset but is not required.

Rules & Requirements
Grading Status: Letter grade.

RELI 415. Teaching the Bible in Public Education. 3 Credits.
This course explores the challenges, ethical questions, and opportunities inherent in teaching biblical literature within public educational settings--both secondary and higher-ed. It also equips students to make informed decisions on how to communicate critical academic ideas about the Bible in ways sensitive to students of different positionalities.

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING or FC-VALUES, COMMBEYOND.
Grading Status: Letter grade.

RELI 416. The Cult of Saints: Narratives, Materialities, Practices. 3 Credits.
By late antiquity, the cult of martyrs and other saints had become "so popular among all levels of Christians, rich and poor, cleric and layperson, rustic and urban dweller, monastic and spouse," that it represented a "rudimentary framework for Christianity" (Limberis 2011). This course traces the origins and development of the cult, conceptualizing it as a network of discourses, practices, and representations. It also explores the cult's impact on neighboring, non-Christian cultures. Previously offered as RELI 614.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-PAST, RESEARCH.
Grading Status: Letter grade.

RELI 420. Post-Holocaust Ethics and Theology. 3 Credits.
This course examines the challenges posed to ethics and theology by the Holocaust. We will address philosophical and moral issues such as the problem of evil, divine omniscience, omnipotence, suffering, theodicy, representation, testimony, and an ethics of memory. Honors version available.

Rules & Requirements

IDEAs in Action Gen Ed: FC-POWER or FC-VALUES.
Grading Status: Letter grade.
Same as: JWST 420.

RELI 421. Religion and Science. 3 Credits.
This course explores the complex relation between religion and science in the modern world. Public disputes over teaching evolution in American schools serve as a central case study of this.

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING or FC-PAST.
Grading Status: Letter grade.

RELI 423. Ethnicity, Race, and Religion in America. 3 Credits.
A theoretical inquiry into ethnicity, race, and religion as constituents of personal and communal identity. Emphasis on global migrations, colonial and postcolonial relations, diasporic communities, and issues of religious pluralism.

Rules & Requirements
Grading Status: Letter grade.

RELI 424. Gender Theory and the Study of Religion. 3 Credits.
An examination of contemporary gender theory, with particular focus on its application to the study of religion.

Rules & Requirements

IDEAs in Action Gen Ed: FC-POWER or FC-VALUES.
Grading Status: Letter grade.
Same as: WGST 424.

RELI 425. Psychology of Religion. 3 Credits.
A critical exploration of the concept of religious experience as defined by such authors as William James and Sigmund Freud. Honors version available.

Rules & Requirements
Grading Status: Letter grade.

RELI 426. The Sacrifice of Abraham. 3 Credits.
This course examines philosophical interpretations of the attempted sacrifice by Abraham of his beloved son, offering a comparative approach. The incident in Genesis is remarkably succinct for its controversial subject matter. We will compare this event with representations in Greek drama, the New Testament, and the Qur'an. Honors version available.

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING or FC-VALUES.
Grading Status: Letter grade.

RELI 427. Spirit Possession and Mediumship. 3 Credits.
This course explores the phenomenon of spirit possession and introduces students to various theoretical and methodological approaches to its academic study. In addition to critically engaging with accounts of spirit possession from around the world, students will explore various related themes of gender, power, and religious and cultural change.

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL or FC-KNOWING.
Grading Status: Letter grade.

RELI 428. Religion and Anthropology. 3 Credits.
Religion studied anthropologically as a cultural, social, and psychological phenomenon in the works of classical and contemporary social thought. Honors version available.

Rules & Requirements
Grading Status: Letter grade.
Same as: ANTH 428, FOLK 428.

RELI 429. Religion and Society. 3 Credits.
Sociological analysis of group beliefs and practices, both traditionally religious and secular, through which fundamental life experiences are given coherence and meaning. This course is a special version of SOCI 129 for juniors and seniors that explores the meanings and experiences of religion, as well as religion's role in communities, institutions, and societies through hands-on intensive research experience. Students may not receive credit for both SOCI 129 and SOCI/RELI 429.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.
Same as: SOCI 429.

RELI 430. Dimensions of Evil. 3 Credits.
This course explores the meaning of evil. By investigating the moral dimensions of evil, its social uses, its figuration in cross-cultural religious texts, theology, folklore, and political imaginaries, this course develops a critical framework for understanding the diverse manifestations and varied cultural renderings of evil in the modern world. Previously offered as RELI 526.

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING or FC-VALUES.
Grading Status: Letter grade.

RELI 438. Religion, Nature, and Environment. 3 Credits.
A seminar on concepts of nature within religions and a variety of world-wide spiritual traditions. Emphasis on sacred space, place, and ritual as a vital intersection of religion and nature. Honors version available.

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING or FC-VALUES.
Grading Status: Letter grade.

RELI 441. Religion in Early America. 3 Credits.
This course examines religion in America from precontact to the Civil War. We will chart the development of religious life, thought, and practice in North America, concentrating on areas later incorporated into the United States, but maintaining broad interest in other Americas. Honors version available.

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING or FC-PAST.
Grading Status: Letter grade.

RELI 442. History of Religion in America since 1865. 3 Credits.
An examination of primary sources in the history of American religion since the Civil War.

Rules & Requirements
Grading Status: Letter grade.

RELI 443. Evangelicalism in Contemporary America. 3 Credits.
Juniors or seniors only. Examination of evangelicalism and its role in American society, politics, and culture. Exploration of its various subdivisions and its relation to such movements as fundamentalism, pentecostalism, revivalism, and premillennialism. Honors version available.

Rules & Requirements
Grading Status: Letter grade.

RELI 444. Gender and Sexuality in Contemporary Judaism. 3 Credits.
The seminar examines the developments in gender roles and in sexuality in contemporary Judaism.

Rules & Requirements
Grading Status: Letter grade.
Same as: JWST 444, WGST 448.

RELI 445. Asian Religions in America. 3 Credits.
A study of intercultural interaction and interreligious encounter focusing on Asian religions in America, 1784 to the present.

Rules & Requirements
Grading Status: Letter grade.
Same as: ASIA 445.

RELI 446. Christian-Jewish Relations throughout the Ages. 3 Credits.
An exploration of the varied and complex relationships which have developed between Christianity and Judaism, from the first century to the 21st century.

Rules & Requirements
Grading Status: Letter grade.

RELI 448. Native and Christian: Indigenous Engagements with Christianity. 3 Credits.
This course examines diverse indigenous engagements with Christianity from earliest contacts to the present. Topics range from missionary contestations in colonial Mexico to the fight for religious freedom in 20th-century United States, from historical revitalization movements like the Ghost Dance to contemporary indigenous theologies in North and South America.

Rules & Requirements

IDEAs in Action Gen Ed: FC-PAST or FC-POWER.
Grading Status: Letter grade.

RELI 450. Sexuality in Jewish Tradition and History. 3 Credits.
This course deals with various topics related to sexuality and marriage in Jewish tradition and history: sex outside of marriage, wedding ceremonies, regulations of marital sex, menstruation, homosexuality, and more.

Rules & Requirements

IDEAs in Action Gen Ed: FC-PAST or FC-VALUES.
Grading Status: Letter grade.
Same as: WGST 450.

RELI 452. Documenting Religion. 3 Credits.
This course examines the politics of representing religious difference. What happens when journalists, pollsters, filmmakers, or pundits attempt to describe, explain or decode religious communities they do not belong to? How do these efforts constitute cultural centers and margins? We examine the political and ethical problems inherent to representing religion. Topics might include documentary film, photojournalism, reality television, opinion polling, news media, and more.

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING or FC-POWER.
Grading Status: Letter grade.

RELI 454. The Reformation. 3 Credits.
Examines a movement of religious reform that shattered Latin Christendom and contributed many of the conditions of early modern Europe. Emphases: religious, political, social.

Rules & Requirements
Grading Status: Letter grade.
Same as: HIST 454.

RELI 465. Monotheistic Mysticism. 3 Credits.
In medieval Jewish Kabbalah, Christian mysticism, and Islamic Sufism, devotees attempt to express direct experiences of an infinite God. This course examines theories of mystical language, particularly the negation of language, the turn to the visual and the body, and the tension between communal and individual expressions of the divine.

Rules & Requirements
Grading Status: Letter grade.

RELI 474. Buddhist Meditation, Mindfulness, and Modernity. 3 Credits.
This course introduces students to a variety of ancient and modern approaches to Buddhist meditation, to their philosophical underpinnings, and to the various claims and purposes associated with mindfulness practices in the past and today. Students will be expected to practice the different types of meditation discussed.

Rules & Requirements
Grading Status: Letter grade.

RELI 480. Modern Muslim Literatures. 3 Credits.
Stresses the diversity of modern Islamic experience by examining the works of various Muslim authors. Genres may include travelogues, memoirs, novels, sermons, and treatises, among others.

Rules & Requirements
IDEAs in Action Gen Ed: FC-AESTH or FC-VALUES.
Grading Status: Letter grade.

RELI 481. Religion, Fundamentalism, and Nationalism. 3 Credits.
An exploration of explosive combinations of religion and politics in the Iranian revolution, the Palestinian movement, Hindu nationalism in India, and Christian fundamentalism in America.

Rules & Requirements
IDEAs in Action Gen Ed: FC-GLOBAL or FC-VALUES.
Grading Status: Letter grade.
Same as: PWAD 481.

RELI 482. Sex, Gender, and Religion in South Asia. 3 Credits.
This seminar draws on feminist and philosophical theory, including the works of Plato, Butler, and Foucualt, as well as postcolonial theory, to explore the categories of sex and gender in South Asian religions. We also analyze the moral cultivation of the self in relation to gender identity in South Asia.

Rules & Requirements
Grading Status: Letter grade.
Same as: ASIA 482, WGST 482.

RELI 485. Gender and Sexuality in Islam. 3 Credits.
This course approaches constructions of gender and sexuality in Muslim societies in diverse historical and geographical contexts. It focuses on changing interpretations of gender roles and sexual norms. Themes include gender in Islamic law, sexual ethics, masculinity, homosexuality, marriage, and dress.

Rules & Requirements
IDEAs in Action Gen Ed: FC-POWER, RESEARCH.
Grading Status: Letter grade.
Same as: ASIA 485.

RELI 486. Islam and Feminism/Islamic Feminism. 3 Credits.
This course explores Muslim women scholars, activists, and movements that have, over the course of the past 150 years, participated in the debate about the compatibility and relationship of Islam and feminism. It offers an introduction to feminist debates about religion and patriarchy focusing on Islam as 'other' and juxtaposes it critical analysis of contextual expressions of Muslim and Islamic feminist activists, thinkers, and movements that challenge and change gender norms and practices.

Rules & Requirements
IDEAs in Action Gen Ed: FC-GLOBAL or FC-POWER.
Grading Status: Letter grade.
Same as: ASIA 486.

RELI 487. Mountains, Pilgrimage, and Sacred Places in Japan. 3 Credits.
This course explores the role that mountains and pilgrimage have played in Japanese cosmology and how they relate to methodology of studying place and space.

Rules & Requirements
Grading Status: Letter grade.
Same as: ASIA 487.

RELI 488. Shinto in Japanese History. 3 Credits.
This course discusses the development of Shinto in Japanese history and covers themes such as myths, syncretism, sacred sites, iconography, nativism, religion and the state, and historiography.

Rules & Requirements
IDEAs in Action Gen Ed: FC-GLOBAL or FC-PAST.
Grading Status: Letter grade.
Same as: ASIA 488.

RELI 489. Animals in Japanese Religion. 3 Credits.
Permission of the instructor. This course examines the cultural construction of animals in Japanese myth, folklore, and religion.

Rules & Requirements
IDEAs in Action Gen Ed: FC-GLOBAL or FC-KNOWING.
Grading Status: Letter grade.
Same as: ASIA 489.

RELI 501. The History of the Bible in Modern Study. 3 Credits.
This course will examine how the modern historical-critical enterprise of biblical scholarship arose, out of what historical circumstances, for what purposes, and to what effect. What are its major aspects? How does it relate to other forms of academic and theological inquiry? How has this enterprise fared in recent times?

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING or FC-PAST, RESEARCH.
Grading Status: Letter grade.

RELI 502. Myths and Epics of the Ancient Near East. 3 Credits.
An examination of Babylonian, Canaanite, Egyptian, Hittite, and Sumerian texts from the prebiblical era, focusing on representative myths, epics, sagas, songs, proverbs, prophecies, and hymns. Honors version available.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-PAST.
Grading Status: Letter grade.
Same as: FOLK 502.

RELI 503. Exploring the Dead Sea Scrolls. 3 Credits.
A comprehensive introduction to the Dead Sea Scrolls and the different Jewish groups connected with them. Honors version available.

Rules & Requirements

IDEAs in Action Gen Ed: FC-PAST or FC-VALUES, RESEARCH.
Grading Status: Letter grade.
Same as: JWST 503.

RELI 504. Readings in Hebrew Bible. 3 Credits.
This course will examine a major corpus of the Hebrew Bible with attention to the full range of historical-critical issues. Attention will be paid as well to early forms of biblical interpretation and their use in the religious life of subsequent communities.

Rules & Requirements
Grading Status: Letter grade.

RELI 512. Ancient Synagogues. 3 Credits.
This is a course on ancient synagogues in Palestine and the Diaspora from the Second Temple period to the seventh century CE.

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL or FC-PAST, RESEARCH.
Grading Status: Letter grade.
Same as: CLAR 512, JWST 512.

RELI 514. Judaism and the Search for Christian Origins. 3 Credits.
Although the origins of Christianity clearly lie in Judaism--the religious framework inherited by Jesus and his disciples--scholars disagree over how and when the two traditions diverged. This course explores critical issues in the conceptualization of this parting, including the theoretical difficulty of distinguishing religion from ethnicity in a premodern context, competing ways of analyzing intermediate groups ("Jewish Christianities"), and the methodological and ethical problems of 19th-20th century scholarship in this area (e.g., Protestant bias, antisemitism).

Rules & Requirements

IDEAs in Action Gen Ed: FC-PAST or FC-POWER, RESEARCH.
Grading Status: Letter grade.

RELI 515. Cultural Histories of the New Testament. 3 Credits.
This course traces the "lives" of individual New Testament texts to illuminate the shifting interests of Christians through different periods. Topics include the Gospel of Mark, the Gospel of John, the letters of Paul and his imitators, and the book of Revelation. Honors version available.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-PAST, RESEARCH.
Repeat Rules: May be repeated for credit. 9 total credits. 3 total completions.
Grading Status: Letter grade.

RELI 522. 19th-Century Critiques of Religion. 3 Credits.
Permission of the instructor. An exploration of influential 19th-century critiques of religion, including texts by such thinkers as Feuerbach, Marx, Kierkegaard, Nietzsche, Stanton, Douglass, and Freud.

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING or FC-VALUES.
Grading Status: Letter grade.

RELI 524. Ethnographic Approaches to Contemporary Religion. 3 Credits.
Critical exploration of exemplary contemporary ethnographies of religion focusing on the ways that ethnographic methods and writing styles shape knowledge of religious and cultural life in various traditions and parts of the world. Topics considered include field work, culture, ethics, and the challenges of interpreting and representing religious experience.

Rules & Requirements
Grading Status: Letter grade.

RELI 525. Seminar in Religion and Literature. 3 Credits.
Seminar topic varies.

Rules & Requirements
Grading Status: Letter grade.

RELI 527. Religious Metaphor and Symbol. 3 Credits.
This course explores the myriad and complex issues related to the function of metaphor and symbol in religious language.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-KNOWING.
Grading Status: Letter grade.

RELI 528. Rituals and Rhetorics of Religion. 3 Credits.
An examination of ritual, allegory, and symbol as modes of religious expression in cultic and literary contexts.

Rules & Requirements
Grading Status: Letter grade.

RELI 530. Genealogies of Religion. 3 Credits.
This seminar explores the historical development of "religion" as a concept and object of academic scholarship through the critical study of key texts and foundational debates about religion in Western thought.

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING or FC-VALUES.
Grading Status: Letter grade.

RELI 533. Women, Gender, and Judaism. 3 Credits.
This course examines historical developments in the study of women and gender in Judaism. We will discuss efforts to challenge and revitalize Jewish tradition through the lens of gender theory and other critical interpretive approaches. Topics to be addressed include biblical interpretation, Jewish law, feminist Jewish theology and liturgy, the renewal of ritual, the rabbinic ordination of women, gender identity, race, sexuality, queer, trans, and non-binary approaches, and representations of these themes in various media.

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING or FC-POWER, RESEARCH.
Grading Status: Letter grade.
Same as: JWST 533, WGST 533.

RELI 540. Mormonism and the American Experience. 3 Credits.
Exploration of the history, beliefs, and practices of Mormons. Will include visits to Latter-Day Saints services, guest speakers, and discussion of race and gender in the contemporary church.

Rules & Requirements
Requisites: Prerequisite, RELI 140; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

RELI 541. Evangelicalism from a Global Perspective. 3 Credits.
The course will examine the evangelical tradition from a global perspective, exploring the tradition from its early rise in Europe to its impact on the Americas, Africa, and Asia. Honors version available.

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL, RESEARCH.
Grading Status: Letter grade.

RELI 542. Religion and the Counterculture. 3 Credits.
The course examines the interaction between the values and messages of the counterculture and religious groups, ideas, and practices during the Vietnam War era. It also investigates the impact of countercultural norms and styles on the current American religious scene. Honors version available.

Rules & Requirements
Grading Status: Letter grade.

RELI 564. Religion, Race, and Inquisition in the Spanish Empire. 3 Credits.
This course on the "Atlantic World" studies Muslims, Christians, and Jews in the medieval Iberian kingdoms, then the religious "other" in the colonial expansion to Latin America, by deploying theories concerning race, gender, sexuality, and postcoloniality.

Rules & Requirements

IDEAs in Action Gen Ed: FC-PAST or FC-POWER.
Grading Status: Letter grade.
Same as: HIST 564.

RELI 565. Medieval Jews and the Bible. 3 Credits.
This course explores the Jewish interpretation of the Bible, focusing on important commentaries from influential medieval Ashkenazi and Sephardic thinkers.

Rules & Requirements
Grading Status: Letter grade.

RELI 566. Islamic and Jewish Legal Literature. 3 Credits.
This course explores many aspects of the Halakhah, the Jewish traditional legal system, focusing on issues such as rituals, holidays, religious obligations and prohibitions, and laws regulating sexual activity.

Rules & Requirements
Grading Status: Letter grade.

RELI 569. Interfaith Marriages and Intimacy in World Religions. 3 Credits.
This seminar explores the topic of intimate relations between people who consider themselves, or are considered by others, to be part of different religious groups. We will explore cases in which such relations achieve the social sanction of marriage and cases in which the relations are of a more temporary nature.

Rules & Requirements
Grading Status: Letter grade.

RELI 580. African American Islam. 3 Credits.
An historical examination of African American Islam in the United States. Explores the intellectual, cultural, social, and political roots of black Islam in addition to its diverse doctrinal, ritual, and institutional manifestations.

Rules & Requirements

IDEAs in Action Gen Ed: FC-POWER or FC-VALUES, RESEARCH.
Grading Status: Letter grade.

RELI 581. Sufism. 3 Credits.
Permission of the instructor. A survey of Islamic mysticism, its sources in the Qur'an and the Prophet Muhammad, and its literary, cultural, and social deployment in Arab, Persian, Indic, and Turkish regions.

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL or FC-PAST, RESEARCH.
Grading Status: Letter grade.
Same as: ASIA 581.

RELI 582. Islam and Islamic Art in South Asia. 3 Credits.
A survey of the formation of Islamic traditions in the subcontinent from the eighth century to the present, with emphasis on religion and politics, the role of Sufism, types of popular religion, and questions of Islamic identity.

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL or FC-PAST.
Grading Status: Letter grade.
Same as: ASIA 582.

RELI 583. Religion and Culture in Iran, 1500-Present. 3 Credits.
Iran from the rise of the Safavid empire to the Islamic Republic. Topics include Shi'ism, politics, intellectual and sectarian movements, encounters with colonialism, art and architecture, music, literature.

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL or FC-PAST.
Grading Status: Letter grade.
Same as: ASIA 583.

RELI 584. The Qur'an as Literature. 3 Credits.
A nontheological approach to the Qur'an as a literary text, emphasizing its history, form, style, and interpretation.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-PAST.
Grading Status: Letter grade.
Same as: ASIA 584.

RELI 585. Religion and Culture of Turkey. 3 Credits.
This course will cover the history of Turkey from the Byzantine period until contemporary times. Key aspects of Turkish culture (architecture, music, poetry to arts) will be covered.

Rules & Requirements
Grading Status: Letter grade.

RELI 586. Women and Gender in Japanese Religions. 3 Credits.
This seminar explores the roles of women in the religions of Japan (including Buddhism, Shinto, folk religions, pilgrimage, new religions movements, and new spirituality culture) from goddesses, shamans, nuns, and pilgrims to demons, temptresses, and lesser human beings. The course traces these themes across Japanese socioeconomic and religious history.

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL or FC-POWER.
Grading Status: Letter grade.

RELI 587. Islam and Sexual Diversity. 3 Credits.
This course explores sexual norms and practices in Muslim contexts in the premodern and modern periods. It considers theories from sexuality, gender, and queer studies, and focuses on the contextual production of sexual norms, going beyond the sex and gender binary, and reflecting on a diverse range of sexual practices in Muslim communities and societies, analyzing concepts such as power, pleasure, control, as they are mapped onto and lived in diverse Muslim bodies.

Rules & Requirements

IDEAs in Action Gen Ed: FC-POWER or FC-VALUES.
Grading Status: Letter grade.
Same as: ASIA 587.

RELI 590. Topics in the Study of Religion. 3 Credits.
Permission of the instructor. Subject matter will vary with instructor but will always be focused on a particular problem or issue.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 9 total credits. 3 total completions.
Grading Status: Letter grade.

RELI 592. Religious Conflict and Literature in India. 3 Credits.
Historical causes of violence between Hindus and Muslims in modern India. Short stories, poetry, and novels in translation are used to explore how conflicts over religious sites, religious conversion, image worship, and language contributed to a sense of conflicting religious identity.

Rules & Requirements
Grading Status: Letter grade.
Same as: HNUR 592.

RELI 602. What Is Scripture? Formations of the Hebrew Bible/Old Testament Canon. 3 Credits.
The course traces the past and continued canonical processes that define what the Hebrew Bible/Old Testament has been and is today, with a focus on the history of biblical interpretation.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-PAST, RESEARCH.
Grading Status: Letter grade.
Same as: JWST 602.

RELI 603. The Bible and the History of the Self. 3 Credits.
This course explores changing conceptions of the self and its relationship to society through the lens of biblical interpretation. How do contemporary notions of the self impact our understanding of the Hebrew Bible? What alternatives to the modern self are available in the Bible? What does the history of biblical interpretation have to tell us about the history of the self? The course focuses on close analysis of biblical texts, translation, and the history of Western thought.

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING or FC-VALUES, RESEARCH.
Grading Status: Letter grade.
Same as: JWST 603.

RELI 607. Problems in Early Christian Literature and History. 3 Credits.
Honors version available.

Rules & Requirements
Requisites: Prerequisite, RELI 104, 207, 208, 209, 217 or 413; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

RELI 608. The Messiah and the Apocalypse. 3 Credits.
Ideas concerning the Messiah and the end of the world held by Jews, Christians, and Muslims. Emphasis on the beginning of the Christian era.

Rules & Requirements
Grading Status: Letter grade.

RELI 609. Christianity and Greco-Roman Culture. 3 Credits.
The seminar surveys the development of Christianity in the Roman empire and examines a variety of attitudes adopted by early Christians toward Greco-Roman philosophy, religion, education, and literature.

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING or FC-PAST.
Requisites: Prerequisite, RELI 104, 209, or 217; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

RELI 610. Readings in the Apostolic Fathers. 3 Credits.
Reading of the Apostolic Fathers. Students must have completed two courses in New Testament/Early Christianity and two years of Greek.

Rules & Requirements
Grading Status: Letter grade.

RELI 617. Death and Afterlife in the Ancient World. 3 Credits.
Examinations of practices and discourses pertaining to death and the afterlife in the ancient civilizations of Near East, Greece, and Rome. Honors version available.

Rules & Requirements

IDEAs in Action Gen Ed: FC-PAST.
Grading Status: Letter grade.

RELI 620. Feminism and Religion. 3 Credits.
This course introduces students to the rich and multi-faceted debates within and about feminism and religion. Through the cultivation of careful and critical reading practice of primary texts by religious feminists and their secular critics, the course enables students to recognize the patterns and arguments of historical and contemporary debates within and across religious traditions and communities, while continuously tracing the ethical commitments and underlying values of feminist scholars and activists.

Rules & Requirements

IDEAs in Action Gen Ed: FC-POWER or FC-VALUES.
Grading Status: Letter grade.

RELI 662. Advanced Seminar in Contemporary Catholicism. 3 Credits.
This advanced seminar is for undergraduate and graduate students who have at least a basic knowledge about Catholicism. The range of topics to be discussed is open and will depend on students' interests and suggestions.

Rules & Requirements
Grading Status: Letter grade.

RELI 665. Body and Suffering in Christian Mysticism. 3 Credits.
Permission of the instructor for nonmajors. Medieval Christians consistently focused on the suffering body as a means of reflecting on Christ's sacrifice. This course considers how medical theories of cognition, gender, and pain influenced the potential role of the body in medieval mystical experience.

Rules & Requirements
Grading Status: Letter grade.
Same as: WGST 664.

RELI 681. Readings in Islamicate Literatures. 3 Credits.
Permission of the instructor. Study of selected religious, literary, and historical texts in Arabic, Persian, or Urdu.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.
Same as: ARAB 681, ASIA 681.

RELI 688. Observation and Interpretation of Religious Action. 3 Credits.
Permission of the instructor. Exercises (including field work) in learning to read the primary modes of public action in religious traditions, e.g., sermons, testimonies, rituals, and prayers.

Rules & Requirements
Grading Status: Letter grade.
Same as: ANTH 688, FOLK 688.

RELI 691H. Honors in Religious Studies. 3 Credits.
Permission of the director of undergraduate studies. Required of all students reading for honors in religious studies.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

RELI 692H. Honors in Religious Studies. 3 Credits.
Permission of the director of undergraduate studies. Required of all students reading for honors in religious studies.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

RELI 696. Independent Study. 3 Credits.
Advanced undergraduate or graduate standing and permission of the instructor. Subject matter should be arranged with a specific instructor.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 6 total credits. 2 total completions.
Grading Status: Letter grade.

RELI 697. Capstone: Undergraduate Seminar. 3 Credits.
Majors only. Concentrating on a different theme each year, this departmental seminar introduces the different areas and approaches in religious studies.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 6 total credits. 2 total completions.
Grading Status: Letter grade.

Graduate-level Courses

RELI 700. Theory and Method in the Study of Religion. 3 Credits.
Graduate standing in religious studies or permission of the instructor. A basic problems and methods course required of all graduate students in religious studies.

Rules & Requirements
Grading Status: Letter grade.

RELI 702. Religion and Literature of Israel. 3 Credits.
A study of the religious traditions in ancient Israelite literature from the 12th through the second centuries BCE.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

RELI 703. Critical Approaches to the Study of the Hebrew Bible and its History of Interpretation. 3 Credits.
Exploration of current critical approaches to the study of the Hebrew Bible, including those oriented toward a study of its interpretive history.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 3 total credits. 1 total completions.
Grading Status: Letter grade.

RELI 704. Readings in Religions of the Ancient Near East. 3 Credits.
Focusing on the Mediterranean religions before Alexander, the course consists of readings of original documents in translation, illustrating theology and cult, as well as on the major history of religions interpretations.

Rules & Requirements
Grading Status: Letter grade.

RELI 707. Early Christian History and Literature. 3 Credits.
Permission of the instructor. A critical study of the history and literature of early Christianity from Paul to Irenaeus, with texts to be read in the original languages.

Rules & Requirements
Grading Status: Letter grade.

RELI 712. Early Jewish History and Literature. 3 Credits.
Permission of the instructor. An examination of the main varieties of pre-rabbinic Judaism: Hellenistic Judaism, apocalyptic Judaism, and the Judaism of the Dead Sea Scrolls.

Rules & Requirements
Grading Status: Letter grade.

RELI 715. Eastern Christianities: Historical, Cultural, and Postcolonial Perspectives. 3 Credits.
This course explore the identities, histories, social organization, and practices of the world's "Eastern" and "Orthodox" Christians.

Rules & Requirements
Grading Status: Letter grade.

RELI 718. Readings in Greco-Roman Religion. 3 Credits.
Permission of the instructor. Opportunity for reading of ancient documents representing the more important religious trends of the Greco-Roman world.

Rules & Requirements
Grading Status: Letter grade.

RELI 720. Critical and Comparative Lineages in Religion and Culture. 3 Credits.
Exploration of intellectual lineages shaping the contemporary study of religion and culture.

Rules & Requirements
Grading Status: Letter grade.

RELI 721. Theories of Religion and Culture. 3 Credits.
Permission of the instructor. Studies in early modern, Enlightenment and Romantic political, philosophical, and literary texts.

Rules & Requirements
Grading Status: Letter grade.

RELI 723. Critical Approaches to Religion and Culture. 3 Credits.
Graduate standing in religious studies or permission of the instructor. Exploration of various forms of contemporary critical thought (including gender theory, critical race theory, and postcolonial studies) in order to assess the value of these critical tools for the study of religion.

Rules & Requirements
Grading Status: Letter grade.

RELI 724. Ethnographic Research Methods: Ethnography of Religion and Religious Formations. 3 Credits.
This course engages the practices, politics, ethics, and epistemology of ethnography as a technique of data production, analysis, and representation. While we will privilege issues and themes related to the study of religion, the course offers a broad, multidisciplinary approach to the construction and execution of ethnographic research.

Rules & Requirements
Grading Status: Letter grade.

RELI 729. Religion and Modernity. 3 Credits.
Graduate standing in religious studies or permission of the instructor. This course examines the relationships between religion and modernity, both as conceptual categories and through ethnographic studies of religion and/in modern life.

Rules & Requirements
Grading Status: Letter grade.

RELI 734. Studies in the Rhetoric of Images. 3 Credits.
Permission of the instructor. Selected readings on image production, exhibition, and interpretation, with consideration of different ritual and cultic settings.

Rules & Requirements
Grading Status: Letter grade.

RELI 735. Critical Works in Religion and Literature. 3 Credits.
Permission of the instructor. Textual analysis of several theoretical and literary works dealing with selected problems in religion and literature.

Rules & Requirements
Grading Status: Letter grade.

RELI 740. Approaches to the Study of Religion in the Americas. 3 Credits.
Explores methods, theories, and genealogies that shape the study of religion in the Americas. The course introduces students to key historiographical contexts and theoretical debates that will help them situate the field within the discipline of Religious Studies.

Rules & Requirements
Grading Status: Letter grade.

RELI 741. Themes in African American Religious History. 3 Credits.
Graduate standing in religious studies or permission of the instructor. A historical and thematic survey of the religions of African Americans from the precolonial era to the present.

Rules & Requirements
Grading Status: Letter grade.

RELI 742. Religion and Literature in America. 3 Credits.
Graduate standing in religious studies or permission of the instructor. A study of the religious tradition in American literature from the Puritan period to the present.

Rules & Requirements
Grading Status: Letter grade.

RELI 743. Current Trends in American Judaism. 3 Credits.
The course aims at examining the current developments in American Judaism: cultural, spiritual, liturgical, as well as social and institutional.

Rules & Requirements
Grading Status: Letter grade.

RELI 744. Religion in Colonial Americas. 3 Credits.
A study of religion in the Americas from pre-contact indigenous communities to 19th century wars of independence. The course examines cases of migration, encounter, rebellion, and institutionalization across the continent and introduces theoretical debates about colonialism, hybridity, revival, and revolution.

Rules & Requirements
Grading Status: Letter grade.

RELI 745. Religion in Postcolonial Americas. 3 Credits.
A study of religion in the Americas through the lens of post-colonialism understood as a concept, a method, and an historical period. This course introduces students to theoretical debates about power, culture, history, and representation to better understand the present and future of the field.

Rules & Requirements
Grading Status: Letter grade.

RELI 746. The Christian-Jewish Encounter in America. 3 Credits.
Course examines the Christian-Jewish encounter in America from the 17th century to the present. Analyzes both theological and social interactions.

Rules & Requirements
Grading Status: Letter grade.

RELI 760. Approaches to Medieval and Early Modern Studies. 3 Credits.
Graduate standing in religious studies or permission of the instructor. An introduction to the problems and methods in the study of medieval and early modern religion in the West.

Rules & Requirements
Grading Status: Letter grade.

RELI 780. Approaches to Islamic Studies. 3 Credits.
An introduction to the academic study of Islam and Muslims, including the history of the field, theory and method in Islamic studies, pedagogy, and important subfields. Gateway course.

Rules & Requirements
Grading Status: Letter grade.

RELI 782. Islam and Reform. 3 Credits.
Exploration of reformist intellectual movements in modern Muslim societies, paying close attention to the case of post-revolutionary Iran and examining the compatibility of Islam and human rights, women's rights, democracy, and fresh hermeneutical approaches to scriptures.

Rules & Requirements
Grading Status: Letter grade.

RELI 785. Critical Genealogies of Middle East Studies. 3 Credits.
Permission of the instructor. This seminar is the core course for the graduate certificate in Middle East studies. It is an introduction to critical issues in the study of the Middle East, focusing on classic works of the humanities and social sciences.

Rules & Requirements
Grading Status: Letter grade.

RELI 801. Seminar in Biblical Studies. 3 Credits.
Topics vary; consult the department.

Rules & Requirements
Grading Status: Letter grade.

RELI 803. Advanced Hebrew Readings. 3 Credits.
Required preparation, proficiency in Hebrew. Primary readings in portions of the Hebrew Bible (e.g., Pentateuch, Deuteronomistic History, prophetic texts, Psalms) or in non-biblical texts (pre-exilic inscriptions, Dead Sea Scrolls) with attention to issues of interpretation.

Rules & Requirements
Grading Status: Letter grade.

RELI 804. Ancient Israelite Religion. 3 Credits.
Explores the field of ancient Israelite religion as it has been conceived in contemporary scholarship. We will review the relevant textual and archaeological data, acquaint ourselves with current debates, and examine the different approaches that scholars have adopted to the problem of ancient Israelite religion.

Rules & Requirements
Grading Status: Letter grade.

RELI 805. Historical Hebrew and Semitic Linguistics. 3 Credits.
An introduction to the historical development of ancient Hebrew within a comparative Semitic framework, with attention to the full range of relevant textual evidence (e.g., biblical Hebrew, pre-exilic inscriptions, Dead Sea Scrolls).

Rules & Requirements
Grading Status: Letter grade.

RELI 807. Hellenistic Religious Texts in Greek. 3 Credits.
Studies in Greek texts drawn from early Christianity, Judaism, and other religions of the Greco-Roman World.

Rules & Requirements
Grading Status: Letter grade.

RELI 808. The Apostolic Fathers. 3 Credits.
Required preparation, proficiency in Greek. Permission of the instructor. A study of selected works of the Apostolic Fathers, including Barnabas, Ignatius, and Polycarp.

Rules & Requirements
Grading Status: Letter grade.

RELI 809. Textual Criticism of the Greek Bible. 3 Credits.
Required preparation, proficiency in Greek. Permission of the instructor. Reconstruction; application of text-critical principles.

Rules & Requirements
Grading Status: Letter grade.

RELI 810. Readings in Early Jewish and Christian Apocalyptic. 3 Credits.
Permission of the instructor. Readings from apocalyptic texts in the original languages.

Rules & Requirements
Grading Status: Letter grade.

RELI 812. Diaspora Judaism. 3 Credits.
Permission of the instructor for undergraduates. Seminar examines the evidence for the ancient Jewish communities of Egypt, Rome, Asia Minor, and Mesopotamia.

Rules & Requirements
Grading Status: Letter grade.
Same as: CLAR 812.

RELI 813. Readings in Talmud. 3 Credits.
Permission of the instructor. An introduction to the study of the Babylonian Talmud in the original Hebrew and Aramaic, with the traditional commentaries. The emphasis is on understanding Talmudic logic.

Rules & Requirements
Grading Status: Letter grade.

RELI 814. Problems in Rabbinic Historiography. 3 Credits.
Examination of the methodological problems of using rabbinic materials as sources for the history of Judaism in the period after 70 CE.

Rules & Requirements
Requisites: Prerequisite, RELI 712; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

RELI 817. Ancient Rhetoric and Early Christianity. 3 Credits.
Permission of the instructor. Survey of the development of rhetorical theory and practice through the Hellenistic and Roman Period. Explores the connection between rhetorical tradition and early Christian literature.

Rules & Requirements
Grading Status: Letter grade.

RELI 818. The Gnostic Scriptures. 3 Credits.
Close reading and interpretation of ancient Gnostic texts found near Nag Hammadi in Egypt.

Rules & Requirements
Requisites: Prerequisite, RELI 413; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

RELI 819. Ancient Philosophy and Early Christianity. 3 Credits.
Required preparation, proficiency in Greek and/or Latin. Survey of the Hellenistic schools of philosophy and their impact on early Christian theories of the universe, ethics, cultural history, and salvation.

Rules & Requirements
Grading Status: Letter grade.

RELI 821. Seminar in Religion and Culture. 3 Credits.
Permission of the instructor. Topics vary; consult the department.

Rules & Requirements
Grading Status: Letter grade.

RELI 823. Postcolonial Approaches to the Study of Religion. 3 Credits.
Permission of the instructor. An examination of major themes in contemporary postcolonial thought, and the application of this work to the study of religion.

Rules & Requirements
Grading Status: Letter grade.

RELI 824. Body, Materiality, History. 3 Credits.
This course addresses theories of the body in the study of history. It expands standard notions of "the body" by considering developments in scientific and medical approaches, then turning to the fields of gender and sexuality studies, disability studies, critical race theory, and postcolonial theory, and ending with consideration of the body's expression through material culture. Extensive historical case studies will be taken from scholarship on Western, Eastern, and indigenous religions.

Rules & Requirements
Grading Status: Letter grade.

RELI 835. Space, Place, and Religion. 3 Credits.
This interdisciplinary graduate seminar focuses on religion, space, and place in the United States.

Rules & Requirements
Grading Status: Letter grade.

RELI 838. Topics in Religion and Law. 3 Credits.
This course examines selected themes in legal and social theory relating to the position of religion in contemporary American society.

Rules & Requirements
Grading Status: Letter grade.

RELI 840. Seminar in American Religion. 3 Credits.
Topics vary. May be repeated for credit.

Rules & Requirements
Grading Status: Letter grade.

RELI 841. Religion and Social Issues in America. 3 Credits.
Historical analysis of the relationship between religious developments and social issues in America. Topics may include economics, politics, and social reform.

Rules & Requirements
Grading Status: Letter grade.

RELI 842. Religion and Cultural Contact in America. 3 Credits.
Examination of religion in America through instances of intercultural contact. Topics vary.

Rules & Requirements
Grading Status: Letter grade.

RELI 843. Roman Catholicism in America. 3 Credits.
A seminar on Roman Catholicism in the United States that also considers developments elsewhere in the Western hemisphere. Focus is on ritual practice and visual culture.

Rules & Requirements
Grading Status: Letter grade.

RELI 866. Medieval Religious Texts. 3 Credits.
Permission of the instructor. Selected texts which illumine significant aspects of medieval religious culture are read in the original languages.

Rules & Requirements
Grading Status: Letter grade.

RELI 867. Texts of the Catholic and Protestant Reformations. 3 Credits.
Permission of the instructor. Selected texts which illumine significant aspects of the Catholic and Protestant Reformations are read in the original languages.

Rules & Requirements
Grading Status: Letter grade.

RELI 870. Methods and Topics in the Study of Western Religious Traditions. 3 Credits.
Permission of the instructor. Exploration of one enduring issue in the history of the Western Christian tradition. The instructor selects several case studies that illustrate both the topic and the developments within traditions.

Rules & Requirements
Grading Status: Letter grade.

RELI 881. Islamic Thought. 3 Credits.
Required preparation, proficiency in Arabic and/or Persian. Advanced study of major Islamic thinkers and topics, based on original language texts and modern scholarly interpretations.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

RELI 885. The Study of Asian Religions and the Construction of the Field. 3 Credits.
Introduction to major approaches and methodological questions in the study of Asian religions. This course serves as a gateway course.

Rules & Requirements
Grading Status: Letter grade.

RELI 890. Topics in the Study of Religion. 3-9 Credits.
Graduate standing in religious studies or permission of the instructor. Topics vary.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

RELI 891. Topics in Islamic Studies. 3 Credits.
Graduate seminar on critical issues in Islamic studies. Topics vary.

Rules & Requirements
Grading Status: Letter grade.

RELI 900. Readings and Research. 3-9 Credits.
Permission of the instructor.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

RELI 910. Religious Studies Professional Development Seminar. 1 Credits.
This course seeks to prepare students for professional academic careers in Religious Studies and cognate disciplines by focusing on the skills and practices associated with success in research, publishing, and the job market.

Rules & Requirements
Grading Status: Letter grade.

RELI 913. Practices of Professional Development. 3 Credits.
This course prepares doctoral students for careers in Religious Studies and cognate disciplines by focusing on the skills and practices associated with success in research, publishing and the job market. Focuses on skills development and strategies including conceptualizing and cultivating a professional persona, planning and presenting research, publishing, alt-ac career options, the academic job search, and professional ethics. Includes practical work as well as discussion.

Rules & Requirements
Grading Status: Letter grade.

RELI 990. Preliminary Preparation. 1-15 Credits.
Rules & Requirements
Grading Status: Letter grade.

RELI 993. Master's Research and Thesis. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

RELI 994. Doctoral Research and Dissertation. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

JWST

Advanced Undergraduate and Graduate-level Courses

JWST 412. From Communism to Capitalism: 20th- and 21st-Century Polish Literature and Culture. 3 Credits.
An overview of the literary and cultural movements in 20th and 21st century Poland as they relate to major historical changes of the century (World War I and World War II, Communism, Post-communism, accession to the European Union). All readings and discussions in English; readings available in Polish for qualified students.

Rules & Requirements
Grading Status: Letter grade.
Same as: PLSH 412.

JWST 420. Post-Holocaust Ethics and Theology. 3 Credits.
This course examines the challenges posed to ethics and theology by the Holocaust. We will address philosophical and moral issues such as the problem of evil, divine omniscience, omnipotence, suffering, theodicy, representation, testimony, and an ethics of memory. Honors version available.

Rules & Requirements
IDEAs in Action Gen Ed: FC-POWER or FC-VALUES.
Grading Status: Letter grade.
Same as: RELI 420.

JWST 425. Beyond Hostilities: Israeli-Palestinian Exchanges and Partnerships in Film, Literature, and Music. 3 Credits.
Focuses on the various collaborations, exchanges, and mutual enrichment between Israelis and Palestinians in the realm of culture, particularly literature and cinema. These connections include language (Israeli Jewish authors writing in Arabic and Palestinian writers who choose Hebrew as their language of expression), collaborating in filmmaking, and joint educational initiatives.

Rules & Requirements
IDEAs in Action Gen Ed: FC-GLOBAL or FC-POWER.
Grading Status: Letter grade.
Same as: ASIA 425, PWAD 425.

JWST 435. The Origins of Culture: Translation and Self-Translation in Hebrew, Yiddish, and Beyond. 3 Credits.
What happens when the translator is also the author of a work? Such instances occupy us in this course, which is devoted to the role of (self-)translation in the creation of Yiddish and Hebrew literatures. In self-translation, everything is blurred: what is the difference between translation and writing? What is the origin of a text, of a culture? How can one conceptualize "fidelity to the original"? And what motivates someone to write their work in more than one language? Through theories of translation, world literature, and comparative literature, we will try to understand the unique type of creation self-translation produces.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-GLOBAL.
Grading Status: Letter grade.
Same as: GSLL 435.

JWST 436. Language, Exile, and Homeland in Zionist Thought and Practice. 3 Credits.
Employing Zionist and post- and anti-Zionist documents, treatises, and mostly literary and cinematic texts, this class will focus on the relations between language, Jewish-Israeli identity, and the notion of homeland. Previously offered as HEBR 436.

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL or FC-POWER.
Grading Status: Letter grade.
Same as: ASIA 436.

JWST 444. Gender and Sexuality in Contemporary Judaism. 3 Credits.
The seminar examines the developments in gender roles and in sexuality in contemporary Judaism.

Rules & Requirements
Grading Status: Letter grade.
Same as: RELI 444, WGST 448.

JWST 462. The Arab-Jews: Culture, Community, and Coexistence. 3 Credits.
This course is designed to examine Jewish life in Arab lands in the last century by examining culture, language, and the communal life that the Arab-Jews shared with their neighbors.

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL or FC-POWER.
Grading Status: Letter grade.
Same as: ASIA 462, PWAD 462.

JWST 464. Imagined Jews: Jewish Themes in Polish and Russian Literature. 3 Credits.
Explores the fictional representation of Jewish life in Russia and Poland by Russian, Polish, and Jewish authors from the 19th century to the present. Taught in English; some foreign language readings for qualified students.

Rules & Requirements
Grading Status: Letter grade.
Same as: SLAV 464.

JWST 465. Literature of Atrocity: The Gulag and the Holocaust in the Soviet Union and Eastern Europe. 3 Credits.
Historical contexts and connections through artistic representation of the Holocaust and Soviet terror in Eastern Europe and the USSR. Taught in English; some foreign language readings for qualified students.

Rules & Requirements
Grading Status: Letter grade.
Same as: GSLL 465, PWAD 465.

JWST 469. Coming to America: New York in Yiddish Literature and Culture. 3 Credits.
New York was a significant gateway for immigration to the United States, particularly for Jews from Eastern Europe in the late 19th and early 20th centuries. As a result, the city became the world's capital of Yiddish culture. This course explores the vibrant world of Yiddish literature, theater, poetry, journalism, and political activism that flourished in New York, shaping its unique "Nyu-Yorkrish" qualities. Through a diverse selection of texts, we will trace the evolution of Yiddish creativity in America's cultural capital.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-POWER.
Grading Status: Letter grade.
Same as: SLAV 469.

JWST 472. Traditions in Transition: Jewish Folklore and Ethnography. 3 Credits.
This seminar examines Jewish stories, humor, ritual, custom, belief, architecture, dress, and food as forms of creative expression that have complex relationships to Jewish experience, representation, identity, memory, and tradition. What makes these forms of folklore Jewish, how do source communities interpret them, and how do ethnographers document them? Previously offered as FOLK 380/FOLK 505/JWST 380/JWST 505.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-KNOWING, RESEARCH.
Grading Status: Letter grade.
Same as: FOLK 472.

JWST 476. Religion and Ethnicity. 3 Credits.
The history of modern Eastern, East Central, and southeastern Europe has been shaped by the ethnic and religious diversity of the regions. This course examines experiences in the Russian, Habsburg, and Ottoman Empires and their successor states from the 19th century to the present day.

Rules & Requirements
Grading Status: Letter grade.
Same as: HIST 476.

JWST 480. Russian-Soviet Jewish Culture: Lofty Dreams and Stark Realities. 3 Credits.
This course delves into the scintillating literary, visual, musical, and cinematic culture created by Jewish universalists seeking to build their new secular identity under the aegis of the Soviet Communist experiment in the aftermath of the 1917 Bolshevik coup. Surveys the works of Isaac Babel, Eduard Bagritsky, Marc Chagall, Sergey Eisenstein, Ilya Ehrenburg, Masha Gessen, Vasily Grossman, Osip Mandelshtam, and others. Taught in English; some readings in Russian for qualified students; films with English subtitles. Honors version available.

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL or FC-PAST.
Grading Status: Letter grade.
Same as: RUSS 480.

JWST 481. Jewish Belonging/s: The Material Culture of Jewish Experience. 3 Credits.
What makes an object "Jewish"? This seminar examines how we think about, animate, repurpose, and display "Jewish" objects in the public realm, cultural institutions, religious spaces, and the home. We consider how makers and users negotiate objects' various meanings within the domains of prayer, performance, entertainment, and exhibition. The class curates a final group exhibition of Jewish material culture based on original fieldwork.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-CREATE, RESEARCH.
Grading Status: Letter grade.
Same as: FOLK 481.

JWST 485. From Fiddler on the Roof to the Holocaust: East European and Soviet Jewish History. 3 Credits.
Eastern Europe was one of the largest centers of Jewish civilization from premodern times to the Second World War, giving rise to important religious, cultural, and political developments in Jewish modernity. This course examines main developments of Jewish society from the late 18th century until the aftermath of the Holocaust.

Rules & Requirements
Grading Status: Letter grade.
Same as: HIST 485.

JWST 486. The Jewish South: Race, Region, and Religion. 3 Credits.
This course explores ethnicity in the South and focuses on the history and culture of Jewish Southerners from their arrival in the Carolinas in the 17th century to the present day.

Rules & Requirements

IDEAs in Action Gen Ed: FC-PAST or FC-POWER.
Grading Status: Letter grade.
Same as: AMST 486.

JWST 503. Exploring the Dead Sea Scrolls. 3 Credits.
A comprehensive introduction to the Dead Sea Scrolls and the different Jewish groups connected with them. Honors version available.

Rules & Requirements

IDEAs in Action Gen Ed: FC-PAST or FC-VALUES, RESEARCH.
Grading Status: Letter grade.
Same as: RELI 503.

JWST 512. Ancient Synagogues. 3 Credits.
This is a course on ancient synagogues in Palestine and the Diaspora from the Second Temple period to the seventh century CE.

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL or FC-PAST, RESEARCH.
Grading Status: Letter grade.
Same as: RELI 512, CLAR 512.

JWST 533. Women, Gender, and Judaism. 3 Credits.
This course examines historical developments in the study of women and gender in Judaism. We will discuss efforts to challenge and revitalize Jewish tradition through the lens of gender theory and other critical interpretive approaches. Topics to be addressed include biblical interpretation, Jewish law, feminist Jewish theology and liturgy, the renewal of ritual, the rabbinic ordination of women, gender identity, race, sexuality, queer, trans, and non-binary approaches, and representations of these themes in various media.

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING or FC-POWER, RESEARCH.
Grading Status: Letter grade.
Same as: RELI 533, WGST 533.

JWST 556. Language Remains: Exploring the German-Jewish Dialogue. 3 Credits.
This course explores German-Jewish writing before and after the Holocaust, focusing on the social and political position of Jews as a minority in German-speaking countries and how those are manifest in their writing and relation to the German language. Previously offered as GERM 466/JWST 466.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-POWER.
Grading Status: Letter grade.
Same as: GERM 556.

JWST 602. What Is Scripture? Formations of the Hebrew Bible/Old Testament Canon. 3 Credits.
The course traces the past and continued canonical processes that define what the Hebrew Bible/Old Testament has been and is today, with a focus on the history of biblical interpretation.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-PAST, RESEARCH.
Grading Status: Letter grade.
Same as: RELI 602.

JWST 603. The Bible and the History of the Self. 3 Credits.
This course explores changing conceptions of the self and its relationship to society through the lens of biblical interpretation. How do contemporary notions of the self impact our understanding of the Hebrew Bible? What alternatives to the modern self are available in the Bible? What does the history of biblical interpretation have to tell us about the history of the self? The course focuses on close analysis of biblical texts, translation, and the history of Western thought.

Rules & Requirements

IDEAs in Action Gen Ed: FC-KNOWING or FC-VALUES, RESEARCH.
Grading Status: Letter grade.
Same as: RELI 603.

JWST 640. Topics in Hispanic Jewish Studies. 3 Credits.
This seminar examines selected topics in modern Hispanic Jewish culture, focusing on literature and film. Possible thematic approaches include identity, diaspora, migration, memory, statehood, life writing, and interreligious relations.

Rules & Requirements
Requisites: Prerequisites, SPAN 371 and 373; permission from the instructor for students lacking the prerequisite.
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 9 total credits. 3 total completions.
Grading Status: Letter grade.
Same as: SPAN 640.

JWST 697. Capstone Course: Themes and Methodologies in Jewish Studies. 3 Credits.
Required of majors and minors in religious studies with a concentration in Jewish studies; interested non-majors and graduate students may also enroll. Concentrating on a different theme each year, and taught by instructors affiliated with the Carolina Center for Jewish Studies, the course offers intensive grounding in key areas of and approaches to Jewish studies. Combines exploration of broad topics with scholarly rigor and specificity.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

Contact Information

Department of Religious Studies
Visit Program Website (http://religion.unc.edu)

Chair
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DEPARTMENT OF ROMANCE STUDIES (GRAD)

The Department of Romance Studies offers Ph.D. degrees with concentrations in French and Francophone studies, Hispanic studies (literature track or linguistics track), and Italian studies. Students may apply directly to the Ph.D. program having either completed a master's degree, or they may apply having completed their bachelor's and work toward what is referred to as a "Shadow M.A." that they would receive en route to the Ph.D. after satisfactorily completing all second-year requirements.

Each Romance studies graduate program offers advanced training in literary, linguistic, and cultural aspects of the Romance world with a strong interdisciplinary orientation. Our community of scholars represents the wide range and increasing complexity of trends, frameworks and schools that constitute the study of the traditional humanities and the digital humanities today.

We offer three concentrations within the Ph.D. in Romance studies:

- French and Francophone Studies (https://romancestudies.unc.edu/graduate/programs/french/)
- Italian Studies (https://romancestudies.unc.edu/graduate/programs/italian/)
- Literatures, Languages, and Cultures of the Iberian Peninsula and Latina America (https://romancestudies.unc.edu/graduate/programs/spanish/)

We also offer a dual-track MA to PhD option in Hispanic Linguistics. For this program, students need to apply to both the Department of Romance Studies and the Department of Linguistics separately and are admitted jointly. Students who already possess an MA in a related field of study may apply directly to the Hispanic Linguistics PhD track.

Research Facilities

The Walter Royal Davis and Wilson Libraries' Spanish, French, and Italian collections rank among the best in the nation. The Spanish and Spanish American collections are particularly strong in Early Modern, Colonial, and 19th- and 20th-century holdings. The French collection has similar strengths in the 17th, 18th, and 19th centuries and is enriched by the Charles Nodier and René Char materials. The Italian collection exhibits strength in the 19th century. These strengths are enhanced by extensive holdings in reference, specialized journals, and rare books. Among the latter are a notable gathering of 20th-century first editions of French writers, a distinguished Spanish drama collection of more than 26,000 plays (many of them pre-1830 sueltas), and the Flatow Collection of Latin American Cronistas, consisting of early imprints of the hispanization of the New World.

For students applying to the doctoral program with the M.A. in hand, appropriate placement and course transfer will be determined on a case-by-case basis by the director of graduate studies in consultation with the graduate advisors. The department may transfer up to nine courses (27 credits) into the Ph.D. program. Students transferring a total of six courses (18 credits) may have the second-year qualifying exams and the research paper (thesis substitute) requirements waived.

Following the faculty member's name is a section number that students should use when registering for independent studies, reading, research, and thesis and dissertation courses with that particular professor.

Professors

French

Hassan Melehy (64), Early Modern French and Comparative Literature, Contemporary Critical Theory, Film, Franco-American Literature
Ellen R. Welch (08), 17th- and 18th-Century French Literature and Culture, Theater and Performance Studies, Theater and Politics, Travel and Literature

Italian

Serenella Iovino (15), Italian Literature and Culture, Comparative Literature, Environmental Humanities, Public Humanities and Literary Journalism, Animal Humanities, Biosemiotics, New Materialisms, Environmental Justice, Landscape Studies, Naturphilosophie and the Philosophical Novel in the Age of Goethe

Spanish

Lucia Binotti (47), Early Modern Cultural Studies, Sociohistorical Linguistics, Digital Humanities, Digital Pedagogy and Immersive Learning
Bruno Estigarribia (22), Spanish Syntax and Semantics; Indigenous Languages (Especially Guarani and Languages of the Amazon and Southern Italian Romance languages); Language Contact; Digital Methods in Linguistics; Qualitative and Quantitative Language Analysis; Corpus Linguistics and Language Documentation; Forensic Linguistics; First Language Acquisition
Veronica Garibotto (03), 19th- to 21st-Century Latin American Literary, Filmic, and Cultural Studies
Juan Carlos González Espitia (62), 18th- and 19th-Century Spanish American Literature; Contemporary Spanish American Literature; Discourses and Representations of Disease; Non-Canonical, Heterodox, Hidden Literatures; Nation-Building Discourses

Associate Professors

French

Jessica Tanner (30), 19th-Century French Literature and Culture, the Novel, the History of Sexuality, Contemporary Critical Theory, Space and Place, Ecocriticism

Italian

Maggie Fritz-Morkin (44), Dante, Boccaccio, Petrarch, the History of Rhetoric, Urban Studies, Medicine and Literature

Spanish

Rafael Acosta Morales (51), Political Theory, Latino Studies, Gender Studies, Comparative Literature and Mexican Studies
Irene Gómez Castellano (13), 18th-Century Spanish Literature and Culture, Poetry and Visual Arts

Lamar Graham (25), Historical and Comparative Romance Linguistics (Particularly within Ibero-Romance), Generative Approaches to Phonological and Morphosyntactic Change, Sociolinguistic and Sociopragmatic Variation, Corpus Linguistics
Carmen Hsu (01), 16th- and 17th-Century Spanish Literature and Culture, Theater, Humanism, National/Cultural Identity, Literatures in North Europe, Asia, and Africa

Assistant Professors

French

Erika Serrato (45), Francophone Caribbean Literature and Culture, Indigeneity, Postcolonial Theory, Memory and Trauma Studies, Literature of Exile

Sean Singh Matharoo (46), 20th- and 21st-Century French and Francophone Speculative Literature, Media, and Philosophy, Postcolonial Theory, the Energy Humanities, Performance Studies

Italian

Danila Cannamela (39), Avant-Garde Poetics, Niche Genres, 1970s Counterculture, and Gender Liberation Movements

Spanish

Adam Cohn (38), Modern Iberian Literature, Jewish Studies, Hispanic Jewish Writing

Professors Emeriti

Cesáreo Bandera
Dino Cervigni
Angel L. Cilveti
Yves de la Quérière
Frank Dominguez
Dominique Fisher
I.R. Stirling Haig II
Antonio Illiano
Larry D. King
Catherine A. Maley
Edward D. Montgomery
Rosa Perelmuter
Ennio Rao
Monica P. Rector

Alicia Rivero
María A. Salgado
Carol Lynn Sherman

Catalan (CATA)

Advanced Undergraduate and Graduate-level Courses

CATA 401. Elementary Catalan. 3 Credits.
Introduction to Catalan language and culture. Designed for students who already have proficiency in another foreign language.

Rules & Requirements
Grading Status: Letter grade.
Global Language: Level 1.

CATA 402. Intermediate Catalan. 3 Credits.
Continuation of Catalan 401 with more emphasis on reading authentic texts.

Rules & Requirements
Grading Status: Letter grade.
Global Language: Level 2.

French (FREN)

Advanced Undergraduate and Graduate-level Courses

FREN 401. Beginning Accelerated French. 3 Credits.
Covers levels one and two of the basic language sequence in one semester. Designed for highly motivated undergraduate/graduate language learners, especially those who have experienced success with learning another language. Intensive approach to developing all skills but with an emphasis on speaking. Students may not receive credit for both FREN 401 and any of the following: FREN 101, 102, 105.

Rules & Requirements
Grading Status: Letter grade.
Global Language: Level 1 & 2 combined.

FREN 402. Intermediate Accelerated French. 3 Credits.
A continuation of FREN 401. Covers levels three and four in one semester. Develops all skills, with increasing emphasis on reading, writing, and cultural analysis. Designed for highly motivated undergraduate/graduate language learners, especially those who have experienced success with learning another language. Prepares students for advanced courses. Students may not receive credit for both FREN 402 and any of the following: FREN 203 and 204.

Rules & Requirements

IDEAs in Action Gen Ed: GLBL-LANG.
Grading Status: Letter grade.
Global Language: Level 3 & 4 combined.

FREN 403. Advanced Composition. 3 Credits.
Review of advanced grammar. Exercises in translation from English into French of literary and critical materials. Free composition and training in the use of stylistic devices.

Rules & Requirements
Requisites: Prerequisite, FREN 300 and one of the following: FREN 255, 260, or 262.
Grading Status: Letter grade.

FREN 421. Old French. 3 Credits.
An introductory course designed to enable students to read medieval texts with rapidity and accuracy. Phonology, morphology, semantics, and syntax. In English.

Rules & Requirements
Grading Status: Letter grade.

FREN 436. Currents in Caribbean Literature. 3 Credits.
Scrutinizes the political, philosophical, aesthetic, and literary movements produced in and about the Francophone Caribbean (Haiti, Guadeloupe, Martinique) and its signature texts.

Rules & Requirements

IDEAs in Action Gen Ed: FC-AESTH or FC-GLOBAL.
Requisites: Prerequisites, FREN 300, and FREN 255, or 260, or 262.
Grading Status: Letter grade.

FREN 437. Literary and Cultural Theory in France. 3 Credits.
A study of structuralist and poststructuralist methods in poetics, semiotics, psychoanalysis, sociology, and philosophy.

Rules & Requirements
Requisites: Prerequisites, FREN 300 and one of the following: FREN 255, 260, or 262.
Repeat Rules: May be repeated for credit. 9 total credits. 3 total completions.
Grading Status: Letter grade.

FREN 452. Muslim Women in France and the United States. 3 Credits.
This class will follow Muslim women's experiences and changing roles in France and the United States from the 1970s through today.

Rules & Requirements
Grading Status: Letter grade.

FREN 489. 19th-Century Literature and Culture. 3 Credits.
Intensive study of a single major author of the romantic or postromantic period. The subject changes from year to year among writers in the different literary genres.

Rules & Requirements
Requisites: Prerequisites, FREN 300 and one of the following: FREN 255, 260, or 262.
Grading Status: Letter grade.

FREN 490. Special Topics in French and Francophone Studies. 3 Credits.
Examines selected topics in French and francophone studies. Content varies by semester and instructor.

Rules & Requirements
Requisites: Prerequisites, FREN 300 and one of the following: FREN 255, 260, or 262.
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 9 total credits. 3 total completions.
Grading Status: Letter grade.

FREN 500. Research Methods in French and European Studies. 3 Credits.
Provides training in research methodology either for a B.A. honors or M.A. thesis topic related to contemporary European studies. Students will learn to conceptualize an original research project and to identify and assess the current intellectual debates in their chosen areas of research.

Rules & Requirements
Requisites: Prerequisites, FREN 300 and one additional course above FREN 330; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

FREN 501. French for the Health Professions. 3 Credits.
Aimed at health care professionals in a variety of fields, this class is designed to help them practice, consolidate, and improve their language skills, while encouraging students to develop a fuller understanding of health care systems in French-speaking regions of the world and to compare conditions with those in the United States. This course does not fulfill the FL requirement and does not count for the French major. Previously offered as FREN 405.

Rules & Requirements
Grading Status: Letter grade.

FREN 504. Cultural Wars: French/United States Perspectives. 3 Credits.
This course examines the limits of universalism in today's "multicultural" France and how the European Union affects French universalism and French resistance to identity politics.

Rules & Requirements
Requisites: Prerequisites, FREN 300 and one additional course above FREN 330; permission of the instructor for students lacking the prerequisites.
Repeat Rules: May be repeated for credit. 9 total credits. 3 total completions.
Grading Status: Letter grade.

FREN 505. African Francophone Cinema. 3 Credits.
Study of the production of films from francophone sub-Saharan and North African communities.

Rules & Requirements
Requisites: Prerequisites, FREN 300 and one additional course above FREN 330; permission of the instructor for students lacking the prerequisites.
Repeat Rules: May be repeated for credit. 9 total credits. 3 total completions.
Grading Status: Letter grade.

FREN 513. 20th- and 21st-Century French Literature and Culture. 3 Credits.
Studies of a single author, a literary movement, or an aesthetic movement from the avant-garde to postmodernism.

Rules & Requirements
Requisites: Prerequisites, FREN 300 and one additional course above FREN 330; permission of the instructor of the instructor for students lacking the prerequisites.
Repeat Rules: May be repeated for credit. 9 total credits. 3 total completions.
Grading Status: Letter grade.

FREN 515. Social Networks: Technology and Community in Modern France. 3 Credits.
Exploration of the interaction between technology and sociability in 19th- through 21st-century French literature, with an emphasis on questions of modernization, industrialization, colonization, globalization, subjectivity, and ethics.

Rules & Requirements
Requisites: Prerequisites, FREN 300 and one additional course above FREN 330; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

FREN 522. French Middle Ages. 3 Credits.
Readings in a variety of medieval texts in light of contemporary literary theory.

Rules & Requirements
Requisites: Prerequisites, FREN 300 and one additional course above FREN 330; permission of the instructor for students lacking the prerequisites.
Repeat Rules: May be repeated for credit. 9 total credits. 3 total completions.
Grading Status: Letter grade.

FREN 530. Postmodernisms. 3 Credits.
Theory, literary texts, films, and cultural phenomena associated with postmodernism and the interaction of art, philosophy, film, literature, and popular culture.

Rules & Requirements
Requisites: Prerequisites, FREN 300 and one additional course above FREN 330; permission of the instructor for students lacking the prerequisites.
Repeat Rules: May be repeated for credit. 9 total credits. 3 total completions.
Grading Status: Letter grade.

FREN 554. Writing the Mediterranean. 3 Credits.
Explores early modern literary representations of the Mediterranean as a space of cross-cultural encounter, exchange, rivalry, and negotiation.

Rules & Requirements
Requisites: Prerequisites, FREN 300 and one additional course above FREN 330; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

FREN 555. Crossing Gazes: Multidirectional and Conflicting Memories of Algeria. 3 Credits.
Focus on contemporary fictions and films, and the writing of history from both the French (French-Algerian or "Pieds noirs," French draftees) and the Algerian sides.

Rules & Requirements
Requisites: Prerequisites, FREN 300 and one additional course above FREN 330; permission of the instructor for students lacking the prerequisites.
Repeat Rules: May be repeated for credit. 9 total credits. 3 total completions.
Grading Status: Letter grade.

FREN 561. French Renaissance Literature and Culture. 3 Credits.
Recommended preparation, FREN 370. Interdisciplinary seminar on a cultural topic or a theme through readings in literary and nonliterary texts.

Rules & Requirements
Repeat Rules: May be repeated for credit. 9 total credits. 3 total completions.
Grading Status: Letter grade.

FREN 562. Poetry of the French Renaissance. 3 Credits.
Recommended preparation, FREN 370. Major currents in French Renaissance poetry: the Rhétoriqueurs, the break with the Middle Ages, Italian influences, the formation of the French Renaissance sonnet, poetry and gender, poetry and politics, the Pléiade. Clément Marot, Maurice Scève, Louise Labé, Olivier de Magny, Pierre de Ronsard, Joachim Du Bellay.

Rules & Requirements
Grading Status: Letter grade.

FREN 563. Studies in the Anglo-French Renaissance. 3 Credits.
Recommended preparation, FREN 370 (for students taking the course for French credit), or one course from ENGL 225 to ENGL 229, or one course from CMPL 120 to CMPL 124. Study of French-English literary relations in the Renaissance, focusing on literary adaptation and appropriation, poetics, political writing, and related areas. Conducted in English; students may do written work in French for major or minor credit.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.
Same as: CMPL 563.

FREN 564. History of the French Language. 3 Credits.
The phonology, morphology, and syntax of French are traced from the Latin foundation to the present. Lectures, readings, discussions, and textual analysis. In English.

Rules & Requirements
Requisites: Prerequisites, FREN 300, and one additional course above FREN 330; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.
Same as: LING 564.

FREN 565. French Phonetics and Phonology. 3 Credits.
Study of the sound system and prosody features of standard French, emphasizing practical application in a variety of oral activities. Requires learning linguistic terminology and the phonetic alphabet.

Rules & Requirements
Requisites: Prerequisite, FREN 255, 260, or 262; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Same as: LING 565.

FREN 566. Structure of Modern French. 3 Credits.
Introduction to phonology, morphology, and syntax of modern standard French. Application of modern linguistic theory to the teaching of French.

Rules & Requirements
Requisites: Prerequisites, FREN 300, and one additional course above FREN 330; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.
Same as: LING 566.

FREN 575. 20th- and 21st-Century Francophone Literature and the Visual Arts. 3 Credits.
Evolution of francophone literature from a literary and cultural perspective (Maghreb, Africa, Caribbean Islands, and Canada).

Rules & Requirements
Requisites: Prerequisites, FREN 300 and one additional course above FREN 330; permission of the instructor for students lacking the prerequisites.
Repeat Rules: May be repeated for credit. 9 total credits. 3 total completions.
Grading Status: Letter grade.

FREN 576. Francophone Cultural Studies. 3 Credits.
An examination of national and transnational identity within European culture and recent economic and ethnologic changes in Western Europe and France.

Rules & Requirements
Requisites: Prerequisites, FREN 300 and one additional course above FREN 330; permission of the instructor for students lacking the prerequisites.
Repeat Rules: May be repeated for credit. 9 total credits. 3 total completions.
Grading Status: Letter grade.

FREN 583. 18th-Century French Literature and Culture. 3 Credits.
Intensive study of a major 18th-century writer.

Rules & Requirements
Requisites: Prerequisites, FREN 300 and one additional course above FREN 330; permission of the instructor for students lacking the requisites.
Repeat Rules: May be repeated for credit. 9 total credits. 3 total completions.
Grading Status: Letter grade.

FREN 585. Libertinism and Sexuality. 3 Credits.
In-depth study of the genealogy of the concept of libertinage as a philosophical discourse and aesthetic manifestation.

Rules & Requirements
Requisites: Prerequisites, FREN 300 and one additional course above FREN 330; permission of the instructor for students lacking the requisites.
Repeat Rules: May be repeated for credit. 9 total credits. 3 total completions.
Grading Status: Letter grade.

FREN 586. Studies in French Cinema. 3 Credits.
Recommended preparation for French majors and minors, FREN 300 and one of FREN 255, 260, or 262; for all other students, CMPL 143. Themes, periods, and movements in the history of French cinema. The course may cover early cinema, silent film, poetic realism of the 1930s, postwar cinema, the French New Wave, or late twentieth- and early twenty-first century cinema. Taught in English or French. See department announcements for current topic and language of instruction.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

FREN 590. Special Topics in French and Francophone Studies. 3 Credits.
Examines selected topics in French and francophone studies. Content varies by semester and instructor.

Rules & Requirements
Requisites: Prerequisites, FREN 300 and one additional course above FREN 330; permission of the instructor for students lacking the requisites.
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 9 total credits. 3 total completions.
Grading Status: Letter grade.

FREN 601. French for Reading. 3 Credits.
French language for reading. For students with no background in French or those needing a review of grammatical structures and vocabulary in preparation for the reading knowledge exam for graduate degrees (FLPA).

Rules & Requirements
Grading Status: Letter grade.

FREN 611. Contemporary Novelists from the French-Speaking World. 3 Credits.
Evolution of the novel of French expression from the 20th to the 21st century.

Rules & Requirements
Requisites: Prerequisites, FREN 300 and one additional course above FREN 330; permission of the instructor for students lacking the requisites.
Grading Status: Letter grade.

FREN 617. Framing Identities: Franco-Arab Transvisual Transcultural Contexts. 3 Credits.
This course focuses on the representation of identities in Franco-Arab contexts and in various artistic productions (fiction, photography, paintings, comics, films, etc.), with a special focus on Algeria, Tunisia, France, Lebanon, and Québec.

Rules & Requirements
Requisites: Prerequisites, FREN 300 and one additional course above FREN 330; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.

FREN 670. 17th-Century French Literature and Culture. 3 Credits.
In-depth study of a particular aspect of 17th-century literature and culture. Possible topics are the court and its elsewhere, Frenchness and foreignness in the 17th century, theater and theatricality, enchantment and disenchantment.

Rules & Requirements
Requisites: Prerequisites, FREN 300 and one additional course above FREN 330; permission of the instructor for students lacking the prerequisites.
Repeat Rules: May be repeated for credit. 9 total credits. 3 total completions.
Grading Status: Letter grade.

FREN 675. Literature and Enlightenment, 17th - 18th Centuries. 3 Credits.
This seminar examines 17th- and 18th-century French literature in relation to the intellectual, social, and political movements of the Enlightenment. See department announcements for current topic and reading list.

Rules & Requirements
Requisites: Prerequisites, FREN 300 and one additional course above FREN 330; permission of the instructor for students lacking the prerequisites.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

FREN 687. Diaspora and Transculturalism in Québécois Literature. 3 Credits.
Evolution of identity and nationhood in Québécois literature from the 1960s to the present, including the study of the literature of immigration (diasporic or littrature migrante).

Rules & Requirements
Requisites: Prerequisites, FREN 300 and one additional course above FREN 330; permission of the instructor for students lacking the prerequisites.
Repeat Rules: May be repeated for credit. 9 total credits. 3 total completions.
Grading Status: Letter grade.

FREN 690. Special Topics in French and Francophone Studies. 3 Credits.
Examines selected topics in French and francophone studies. Content varies by semester and instructor.

Rules & Requirements
Requisites: Prerequisites, FREN 300, and 370 or 372.
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 9 total credits. 3 total completions.
Grading Status: Letter grade.

FREN 691H. Honors Thesis in French. 3 Credits.
Required of students reading for honors. Preparation of an essay under the direction of a member of the faculty. Topic to be approved by thesis director in consultation with honors advisor.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

FREN 692H. Honors Thesis in French. 3 Credits.
Restricted to senior honors candidates. Second semester of senior honors thesis. Thesis preparation under the direction of a departmental faculty member.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

Graduate-level Courses

FREN 714. French Drama and Film. 3 Credits.
Semiotic readings in French and Francophone theater at the crossroads of cultures from the avant-garde to postmodernism.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

FREN 726. French Feminist Theory. 3 Credits.
An introduction to feminist literary theory, focusing on feminist writings from France (in translation) and their sources in psychoanalysis and poststructuralism. Anglo-American counterparts and adaptations of the French theorists in the United States will also be treated.

Rules & Requirements
Grading Status: Letter grade.
Same as: WGST 726.

FREN 734. 17th-Century Drama. 3 Credits.
Readings in 16th and 17th-century French theater, Crébillion père and Voltaire. Selection of texts will be announced by the instructor.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

FREN 784. Philosophers of the Enlightenment. 3 Credits.
Intellectual currents (religious, scientific, epistemological) and morals as reflected in such writers as Bayle, la Mettrie, Condillac, Helvétius, d'Holbach, the Encyclopedists, and others.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

FREN 789. Franco-Asian Encounters. 3 Credits.
Cultural encounters between France, Vietnam and China and overview of the French presence in Vietnam from the 1880's to the end of the colonial period in 1954.

Rules & Requirements
Grading Status: Letter grade.

FREN 790. Special Topics in French and Francophone Studies. 3 Credits.
Examines selected topics in French and francophone studies. Content varies by semester and instructor.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 9 total credits. 3 total completions.
Grading Status: Letter grade.

FREN 794. French 19th-Century Post-Romantic Poetry. 3 Credits.
A study of the evolution of poetry and poetics in modernity beginning with Baudelaire.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

FREN 795. The French Realistic and Naturalistic Novel. 3 Credits.
A study of major realistic and naturalistic novelists (Flaubert, the Goncourts, Daudet, Zola, Maupassant, and Huysmans).

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

FREN 796. French Brief Fiction of the 19th Century and/or 20th Century. 3 Credits.
A study of short narrative as a hybrid genre from a literary and cultural perspective.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

FREN 797. Fin-de-Siècle Literatures. 3 Credits.
Fiction from the 1880s through WWI and its aftermath: modernity (the1850s), decadence, naturalism, the Avant-garde, and the belle époque.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

FREN 840. Special Readings. 1-15 Credits.
Doctoral students only.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

FREN 890. Seminar. 3 Credits.
Topic determined by instructor and announced in advance.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 9 total credits. 3 total completions.
Grading Status: Letter grade.

FREN 992. Master's (Non-Thesis). 3 Credits.
Master's Thesis Substitute

Rules & Requirements
Repeat Rules: May be repeated for credit.

FREN 993. Master's Research and Thesis. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

FREN 994. Doctoral Research and Dissertation. 3 Credits.
Research in a special field under the direction of a member of the graduate faculty.

Rules & Requirements
Repeat Rules: May be repeated for credit.

Italian (ITAL)

Advanced Undergraduate and Graduate-level Courses

ITAL 401. Beginning Accelerated Italian. 3 Credits.
Covers levels one and two of the basic language sequence in one semester. Designed for highly motivated undergraduate/graduate language learners, especially those who have experienced success with learning another language. Intensive approach to developing all skills but with an emphasis on speaking. Students may not receive credit for both ITAL 401 and ITAL 101 or 102.

Rules & Requirements
Grading Status: Letter grade.
Global Language: Level 1 & 2 combined.

ITAL 402. Intermediate Accelerated Italian. 3 Credits.
A continuation of ITAL 401, covers levels three and four in one semester. Develops all skills, with increasing emphasis on reading, writing, and cultural analysis. Designed for highly motivated undergraduate/graduate language learners, especially those who have experienced success with learning another language. Prepares students for advanced courses. Students may not receive credit for both ITAL 402 and ITAL 203 or ITAL 204.

Rules & Requirements
IDEAs in Action Gen Ed: GLBL-LANG.
Requisites: Prerequisite, ITAL 102 or 401.
Grading Status: Letter grade.
Global Language: Level 3 & 4 combined.

ITAL 525. Italo Calvino in English. 3 Credits.
Offers a panoramic reading of Italo Calvino's works from his first works on the Resistance and war to his posthumous legacy. Taught in English.

Rules & Requirements
IDEAs in Action Gen Ed: FC-AESTH or FC-VALUES, RESEARCH.
Grading Status: Letter grade.

ITAL 526. History of the Italian Language. 3 Credits.
Studies in the evolution of the Italian language between its Latin origins and present debates around language pedagogy and English hegemony. Topics may include medieval and humanist language theory; grammar books and the codification of literary Tuscan in the sixteenth century; academies and dictionaries; philology in practice and in theory, world philology; nationalism, Italy's post-WWII linguistic standardization, and globalization.

Rules & Requirements
Requisites: Prerequisite, ITAL 204 or 402; permission of the instructor.
Grading Status: Letter grade.

ITAL 555. Ecology and Poetry: Italy in Continental Conversation. 3 Credits.
This course will explore how contemporary Italian and European poetry provide a terrain for a cultural and ecological transition towards protecting our environment from its current crisis. Taught in English.

Rules & Requirements
IDEAs in Action Gen Ed: FC-AESTH.
Grading Status: Letter grade.

ITAL 571. Primo Levi in English. 3 Credits.
Discusses Nazi-fascist dictatorships and the Holocaust, as well as the democratization of Western societies after WWII. Also discusses Primo Levi's legacy today, in a time in which the memory of the recent past is always on the verge of being erased by new discriminatory discourses and renewed forms of violence. Taught in English.

Rules & Requirements
IDEAs in Action Gen Ed: FC-AESTH or FC-VALUES, RESEARCH.
Grading Status: Letter grade.

ITAL 691H. Honors Thesis. 3 Credits.
Required of students reading for honors. Preparation of an essay under direction of a member of the faculty. Topics to be approved by thesis director in consultation with honors advisor.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

ITAL 692H. Honors Thesis in Italian. 3 Credits.
Restricted to senior honors candidates. Second semester of senior honors thesis. Thesis preparation under the direction of a departmental faculty member.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

Graduate-level Courses

ITAL 706. Proseminar. 3 Credits.
An introduction to modern Italian criticism and to current methods of research and scholarship. Bibliographic survey of basic tools and secondary literature. Guidance in preparation of papers, theses, and dissertations. Staff.

Rules & Requirements
Grading Status: Letter grade.

ITAL 731. Infernal Vernaculars. 3 Credits.
An exploration of the literary, visual, and religious representations of Hell shaping late medieval Italian culture, culminating in a close reading of Dante's Inferno as a lucid indictment of the political hellscape. Additional consideration of Dante's evolving poetic response to political fragmentation from the De vulgari eloquentia to the Comedy. Permission of the instructor for undergraduates.

Rules & Requirements
Grading Status: Letter grade.

ITAL 732. Between Heaven and Earth: Dante's Poiesis. 3 Credits.
Focusing on Dante's lyric poetry, Vita nova, and Purgatorio, this course tracks various issues related to the generation of poetry in Dante's works and in medieval culture. Topics include medieval psychology, dream theory, conversion, inspiration, devotion, and eros, in addition to manuscript culture, authorship, tradition, and canonicity. Permission of the instructor for undergraduates.

Rules & Requirements
Grading Status: Letter grade.

ITAL 734. Petrarch's Many Tongues. 3 Credits.
Petrarch's vernacular lyric has famously been called "monolinguistic" for its unity of style and lexicon, yet his Latin works show surprising aesthetic experimentation in mordant satire and classically-inspired invective. This course examines works in both tongues as essential to his authorial persona. Based on the wealth of manuscript evidence documenting Petrarch's reading and writing processes, we will observe and analyze his literary self-fashioning.

Rules & Requirements
Grading Status: Letter grade.

ITAL 735. Boccaccio Between the Lines. 3 Credits.
A reading of Boccaccio's Decameron and minor works in their cultural contexts. Topics of extended focus may include civic values, representations of gender, positive and natural law, pandemic, hygiene and sanitation; narrative structure, epistemology, authorship, translation and censorship, manuscript culture, genre theory, and the Decameron's afterlife in the age of Covid-19.

Rules & Requirements
Grading Status: Letter grade.

ITAL 741. Studies in Humanism and the Fifteenth Century. 3 Credits.
A topics course exploring humanism as an international intellectual and social revolution and offering some of its core readings from among the Italian humanists of the fifteenth century. Different iterations of the course take up different thematic coordinates, approaches and core texts.

Rules & Requirements
Requisites: Prerequisite, ITAL 204 or 402.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

ITAL 751. Studies in Renaissance Literature and the Sixteenth Century. 3 Credits.
A topics course with core readings from among the genres popular in sixteenth-century Europe: lyric, romance, dialogue, pastoral, treatise. Cultural studies topics may include the rise of print culture; the 'Italian' wars; debates around gender, language, and the peninsula's small states; classicism vs. innovation; proto-nationalism, cosmopolitanism, ethnography; religious conflict; visual and material culture; non-human animals and ecocritical perspectives.

Rules & Requirements
Requisites: Prerequisite, ITAL 204 or 402.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

ITAL 771. The 17th and 18th Centuries. 3 Credits.
The Age of the Baroque, Campanella, the new genres, Tassoni. The literature of Arcadia, the Enlightenment, Goldoni, Parini, and Alfieri.

Rules & Requirements
Requisites: Prerequisite, ITAL 204 or 402.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

ITAL 781. Italian Romanticism. 3 Credits.
Preromanticism; Alfieri; the lyrics and novels of Foscolo, Leopardi, Manzoni; the romantic drama from Pindemonte to Niccolini.

Rules & Requirements
Requisites: Prerequisite, ITAL 204 or 402.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

ITAL 782. Italian Literature and Literary Landscapes in the Second Half of the 19th Century. 3 Credits.
This course explores the major literary expressions of the second half of the 19th century and their conversations with their landscapes. Authors and movements include Verismo and Verga, Grazia Deledda, Pascoli, Scapigliatura, and Decadentismo.

Rules & Requirements
Requisites: Prerequisite, ITAL 204 or 402.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

ITAL 784. Italian Avant-Gardes and Neo-Avant-Gardes 20th Century. 3 Credits.
Examines the critical issues raised by the Italian avant-gardes and neo-avant-gardes of the 20th century.

Rules & Requirements
Requisites: Prerequisite, ITAL 204 or 402.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

ITAL 795. Modern Italian Fiction in Critical Conversations. 3 Credits.
This course explores the works of major modern writers (Luigi Pirandello, Italo Svevo, Alberto Moravia, Pier Paolo Pasolini, Cesare Pavese, Anna Maria Ortese, Elsa Morante, Italo Calvino, Primo Levi, Natalia Ginzburg etc.) in conversation with contemporary literary theories and in a comparative perspective.

Rules & Requirements
Requisites: Prerequisite, ITAL 204 or 402.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

ITAL 796. History, Environment & Society in Modern Italian Drama. 3 Credits.
This course explores the works of major 20th and 21st century playwrights (Pirandello, Eduardo de Filippo, Dario Fo, Franca Rame, Marco Paolini, Ascanio Celestini etc.) in their conversation with social issues, historical changes, political phenomena, and environmental emergencies.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

ITAL 830. Seminar. 3 Credits.
Special study and research in set topics, with particular emphasis on theory and comparative perspectives. Subjects include specific genres (e.g. autobiography, the social novel, postmodern fiction, etc.), current debates (new Italian epic, Italian Theory, etc.), and the "new humanities" (environmental humanities and ecocriticism, medical and legal humanities, energy humanities, humanism and posthumanism, history of the humanities, etc.)

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 9 total credits. 3 total completions.
Grading Status: Letter grade.

ITAL 840. Special Readings. 1-15 Credits.
A tutorial on a topic agreed upon by the student and a member of the graduate faculty.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

ITAL 992. Master's (Non-Thesis). 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

ITAL 993. Master's Research and Thesis. 3 Credits.
Research in a special field under the direction of a member of the graduate faculty.

Rules & Requirements
Repeat Rules: May be repeated for credit.

ITAL 994. Doctoral Research and Dissertation. 3 Credits.
Research in a special field under the direction of a member of the graduate faculty.

Rules & Requirements
Repeat Rules: May be repeated for credit.

Portuguese (PORT)

Advanced Undergraduate and Graduate-level Courses

PORT 401. Beginning Accelerated Brazilian Portuguese I. 3 Credits.
Covers levels one and two of the basic language sequence in one semester. Designed for highly motivated undergraduate/graduate language learners, especially those who have experienced success with learning another language. Intensive approach to developing all skills but with an emphasis on speaking. Students may not receive credit for both PORT 401 and PORT 101, 102, 105 or 111.

Rules & Requirements
Grading Status: Letter grade.
Global Language: Level 1 & 2 combined.

PORT 402. Intermediate Accelerated Brazilian Portuguese II. 3 Credits.
A continuation of PORT 401, covers levels three and four in one semester. Develops all skills, with increasing emphasis on reading, writing, and cultural analysis. Designed for highly motivated undergraduate/graduate language learners, especially those who have experienced success with learning another language. Prepares students for advanced courses. Students may not receive credit for both PORT 402 and PORT 203, PORT 204 or PORT 212.

Rules & Requirements
IDEAs in Action Gen Ed: GLBL-LANG.
Requisites: Prerequisite, PORT 102, 111, or 401.
Grading Status: Letter grade.
Global Language: Level 3 & 4 combined.

PORT 408. LAC Recitation. 1 Credits.
A recitation section or stand-alone course for selected courses that promote foreign language proficiency across the curriculum (LAC). Weekly discussion and readings in Portuguese. Co-registration required unless a stand-alone LAC course; contact instructor or view Notes to determine.

Rules & Requirements
Requisites: Prerequisite, PORT 204 or 402; permission of the instructor for students lacking the prerequisite.
Repeat Rules: May be repeated for credit. 3 total credits. 3 total completions.
Grading Status: Letter grade.

PORT 420. Portuguese Language and Culture for the Professions. 3 Credits.
Training for effective oral and written communication in the professional world. Builds upon linguistic and sociolinguistic concepts, refining language and enhancing cultural proficiency through extensive writing and speaking practice. Vocabulary, readings, and activities relate to social issues, business professions, and the workplace.

Rules & Requirements
IDEAs in Action Gen Ed: FC-GLOBAL, COMMBEYOND.
Requisites: Prerequisite, PORT 204 or 402; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Global Language: Level 5.

PORT 501. Survey of Portuguese Literature I. 3 Credits.
An introduction to Portuguese literature from its origins through the 18th century.

Rules & Requirements
Requisites: Prerequisite, PORT 204 or 402.
Grading Status: Letter grade.
Global Language: Level 5.

PORT 520. Climate Change and the Cultural Imagination: Lusophone Interpretations. 3 Credits.
In this course we will explore how contemporary Lusophone culture broaches the challenges and global dynamics of climate change. How do the arts imagine solutions for the problems of contemporary environments? How might they subvert traditional configurations of knowledge and of power, and how can they impact human behavior? How might they help us envision a different future for our planet? Conducted in Portuguese.

Rules & Requirements
IDEAs in Action Gen Ed: FC-AESTH or FC-GLOBAL.
Requisites: Prerequisite, PORT 310, or 323; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Global Language: Level 6.

PORT 521. Contemporary Portuguese Culture and Contexts. 3 Credits.
This course examines contemporary Portuguese culture and national identity--contrasting it with European culture in general--and examining the historical events (primarily from the 20th century) that have had the greatest impact on national identity. The Estado Novo dictatorship, the 1974 Carnation Revolution, loss of the Portuguese African colonies, integration into the European Union, and the changing social perceptions of the role of women are all examined.

Rules & Requirements
IDEAs in Action Gen Ed: FC-PAST.
Grading Status: Letter grade.

PORT 526. History of the Portuguese Language. 3 Credits.
Survey of the history of Portuguese with stress on the characteristics of Brazilian Portuguese and the factors underlying them.

Rules & Requirements
Requisites: Prerequisite, PORT 402; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Global Language: Level 5.

PORT 530. Varieties of Portuguese. 3 Credits.
Introduction to the linguistic analysis of Portuguese. Basic linguistic comparison of Portuguese dialects at different levels of linguistic structure. Emphasis on theoretical background in understanding language variation as a property of natural languages.

Rules & Requirements
Grading Status: Letter grade.

PORT 535. Brazilian Drama. 3 Credits.
A study of representative Brazilian plays of the 20th century with a review of the development of the theater in Brazil.

Rules & Requirements
Requisites: Prerequisite, PORT 402; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Global Language: Level 5.

PORT 540. Cultural Topics from the Lusophone World. 3 Credits.
This course examines trends in the cultural production of the Lusophone world from the 19th century to the present, including philosophy, art, film, music, and social practices in Portugal, Brazil, and Lusophone Africa. Topics may include artistic movements, race, class, gender, colonialism, and religion.

Rules & Requirements
Requisites: Prerequisite, PORT 204 or 402; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Global Language: Level 5.

PORT 691H. Honors Thesis. 3 Credits.
Required of all students reading for honors. Preparation of an essay under the direction of a faculty member. Topic to be approved by thesis director in consultation with honors advisor.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

PORT 692H. Honors Thesis in Portuguese. 3 Credits.
Restricted to senior honors candidates. Second semester of senior honors thesis. Thesis preparation under the direction of a departmental faculty member.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

Graduate-level Courses

PORT 703. Advanced Composition for Graduate Students. 3 Credits.
Advanced grammar with exercises in translation from English into Portuguese. Free composition and training in the use of stylistic devices.

Rules & Requirements
Grading Status: Letter grade.

PORT 704. Luso-Brazilian Bibliography and Methodology. 3 Credits.
An introduction to bibliography and methodology in Luso-Brazilian literary and linguistic research.

Rules & Requirements
Grading Status: Letter grade.

PORT 710. The Portuguese Novel. 3 Credits.
A study of prose fiction, particularly from the 19th and 20th centuries, with special emphasis on Camilo Castelo Branco, Eça de Queirós, Aquilino Ribeiro, Ferreira de Castro, and the neo-realistas.

Rules & Requirements
Grading Status: Letter grade.

PORT 712. The Brazilian Novel. 3 Credits.
Extensive reading of representative Brazilian novels from the second half of the 19th century to the present.

Rules & Requirements
Grading Status: Letter grade.

PORT 713. Machado de Assis. 3 Credits.
A study of the prose fiction, drama, poetry, and criticism of Machado de Assis, with reference to other major writers of the second half of the 19th century.

Rules & Requirements
Grading Status: Letter grade.

PORT 714. Modern Brazilian Short Fiction and Essays. 3 Credits.
A study of Brazilian short stories, novelas, and essays of the 20th century.

Rules & Requirements
Grading Status: Letter grade.

PORT 721. Old Portuguese. 3 Credits.
A study of Portuguese historical phonology and morphology with readings from medieval verse and prose.

Rules & Requirements
Grading Status: Letter grade.

PORT 731. Camões. 3 Credits.
The works of Camões (epic, lyric poetry, and drama) are studied with reference to the contemporary Iberian historical and literary background.

Rules & Requirements
Grading Status: Letter grade.

PORT 791. Portuguese Overseas Language and Literature. 3 Credits.
A survey of the use and characteristics of Portuguese as used in Africa and Asia (especially Cape Verde creole) and readings from contemporary African authors using Portuguese.

Rules & Requirements
Grading Status: Letter grade.

PORT 830. Seminar in Portuguese Literature. 3 Credits.
Topic determined by instructor and announced in advance.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 9 total credits. 3 total completions.
Grading Status: Letter grade.

PORT 833. Seminar in Luso-Brazilian Linguistics. 3 Credits.
Topic determined by instructor and announced in advance.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 9 total credits. 3 total completions.
Grading Status: Letter grade.

PORT 835. Seminar in Brazilian Literature. 3 Credits.
Topic determined by instructor and announced in advance.

Rules & Requirements
Repeat Rules: May be repeated for credit. 9 total credits. 3 total completions.
Grading Status: Letter grade.

PORT 840. Special Readings. 1-15 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

PORT 993. Master's Research and Thesis. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

PORT 994. Doctoral Research and Dissertation. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

Romance (ROML)

Advanced Undergraduate and Graduate-level Courses

ROML 461. Beginning Accelerated Romanian. 3 Credits.
Covers levels one and two of the basic language sequence in one semester. Designed for highly motivated undergraduate/graduate language learners, especially those who have experienced success with learning another language. Intensive approach to developing all skills but with an emphasis on speaking.

Rules & Requirements
Grading Status: Letter grade.
Global Language: Level 1 & 2 combined.

ROML 462. Intermediate Accelerated Romanian. 3 Credits.
A continuation of ROML 461, covers levels three and four in one semester. Develops all skills, with increasing emphasis on reading, writing, and cultural analysis. Designed for highly motivated undergraduate/graduate language learners, especially those who have experienced success with learning another language.

Rules & Requirements

IDEAs in Action Gen Ed: GLBL-LANG.
Requisites: Prerequisite, ROML 461; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Global Language: Level 3 & 4 combined.

ROML 490. Special Topics in Romance Studies and Languages. 3 Credits.
Examines selected topics in Romance studies and languages. Content varies by semester and instructor.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

ROML 500. Research Methods for Romance Languages and European Studies. 3 Credits.
Required preparation, B.A. with honors student or M.A. student. Provides training in research methodology for a B.A. with honors or M.A. thesis. Students will learn to conceptualize an original research project and to identify and assess the current intellectual debates in their chosen areas of research.

Rules & Requirements
Grading Status: Letter grade.

ROML 501. Introduction to Digital Humanities for Romance Languages, Cultures and Heritage Studies. 3 Credits.
Introduction to the digital humanities, its methods, theories, and applications in humanistic research as it pertains to the Romance languages, their cultures and heritage. Covers a variety of digital tools and approaches to explore, understand, organize, present, and tell stories with data from the Romance worlds. In English and open to graduate students and advanced undergraduates of all programs.

Rules & Requirements
Grading Status: Letter grade.

ROML 578. Comparative History of the Romance Languages. 3 Credits.
The linguistic study of the evolution of Spanish, Portuguese, French, and Italian (and other Romance languages) from their common ancestor of Latin. Emphasis on phonological, morphological, syntactic, and lexical commonalities and divergences among the languages.

Rules & Requirements

IDEAs in Action Gen Ed: FC-PAST.
Requisites: Prerequisite, FREN 300 or ITAL 300 or PORT 310 or SPAN 300; OR graduate standing; OR permission of instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Same as: LING 578.

ROML 600. Masters Workshop on Theory. 3 Credits.
This graduate seminar consists of a series of in-depth studies of several major contemporary approaches to literary theory. Designed primarily as an elective for masters candidates in Romance Languages, this course aims to prepare students for advanced literature and literary theory courses.

Rules & Requirements
Grading Status: Letter grade.

ROML 650. The Politics of Remembering: Memory, History, and Power in 20th-Century Europe. 3 Credits.
Interdisciplinary, comparative, and multimedia approach to the question of memory and history in 20th-century Europe. Explores individual memory, collective memory, and commemoration. Survey of interdisciplinary approaches to the field and an examination of historical sites through the narratives of mental illness, fiction, memoir, testimonial literature, photography, and film.

Rules & Requirements
Grading Status: Letter grade.

ROML 660. Film and Culture in Brazil and Spanish America. 3 Credits.
Critical examination of 20th-century Latin American cultural history in Brazil and Spanish-speaking countries, including Mexico, Cuba, El Salvador, Peru, Colombia, and Argentina. Course is framed between late 19th-century modernization and the contemporary discussion on globalization.

Rules & Requirements
Grading Status: Letter grade.

ROML 665. Reading Latin American Film and Photography. 3 Credits.
Required preparation, one Spanish or Portuguese major-level literature course or permission of the instructor. Critical readings of photography through the lens of Brazilian and Spanish-American written, photographic, and film archives. This course is designed for graduate and advanced undergraduate students and considers current theoretical movements in photography alongside the historical, political, and aesthetic debates shaping the field of Latin American visual culture.

Rules & Requirements
Grading Status: Letter grade.

ROML 698. Seminar in Romance Languages: Capstone Course. 3 Credits.
Capstone course.

Rules & Requirements
Grading Status: Letter grade.

Graduate-level Courses

ROML 700. Theories and Techniques of Teaching. 3 Credits.
Required of all new graduate instructors. Exploration of theoretical issues in teaching Romance languages with their practical applications, including the integration of technology.

Rules & Requirements
Grading Status: Letter grade.

ROML 707. Film Theory and Criticism. 3 Credits.
Introduction to theoretical, analytical and historical approaches to narrative cinema in the Spanish-speaking world. For graduate students with no prior experience working with film.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

ROML 751. Introduction to Medieval Studies. 3 Credits.
Interdisciplinary course to introduce graduate students to the sources, methods, and approaches of medieval studies.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

ROML 755. Workshop on Literary Theory and Research Methods. 1.5 Credits.
An introduction to contemporary theoretical positions to acquaint the student with issues posed by formalism, Marxism, feminism, and deconstruction. Orientation to Romance bibliography and research methods.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

ROML 756. Topics in Translation Studies. 3 Credits.
Permission of instructor. A rotating topic seminar on translation studies, providing an overview of the field and/or specializing in one or more sub-topics: post-colonialism, feminism, theory/practice, adaptation, censorship, activism. See department announcements for current topic and reading list. In English. Fulfills 'theory' requirement for graduate students.

Rules & Requirements
Grading Status: Letter grade.

ROML 793. Graduate Internship in Romance Studies. 1 Credits.
Allows ROMS graduate students to pursue paid or unpaid practicums or internships for credit. Examples include working with a teacher at a secondary or independent school, shadowing a staff member in university administration, working in a nonprofit, library, museum, or other relevant government or private-sector agency. Work undertaken for unpaid internships must comply with Federal criteria. Departmental approval required. Restricted to Graduate students only

Rules & Requirements
Grading Status: Letter grade.

ROML 800. Professional Development for Romance Studies. 1 Credits.
This required course for graduate students in Romance Studies provides a broad overview of the practical knowledge and skills that students will need to succeed in the graduate program. Restricted to Graduate students only

Rules & Requirements
Grading Status: Letter grade.

ROML 820. Introduction to Latin for Romance Studies. 3 Credits.
Thorough study of the basic grammar and syntax of classical Latin, followed by readings from representative medieval literary texts and a sampling of writings by the Italian humanists. Restricted to graduate students in the Department of Romance Languages and Literatures.

Rules & Requirements
Grading Status: Letter grade.

ROML 824. Romance Paleography. 3 Credits.
Study of the development of medieval romance book hands and diplomatics from their origins to the advent of printing; with practical exercises.

Rules & Requirements
Grading Status: Letter grade.

ROML 825. Provençal. 3 Credits.
Linguistic analysis of the langue d'oc and investigation of medieval Provençal literature.

Rules & Requirements
Grading Status: Letter grade.

ROML 830. Seminar in Romance Languages. 3 Credits.
Topic determined by instructor and announced in advance.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 9 total credits. 3 total completions.
Grading Status: Letter grade.

ROML 840. Special Readings. 1-21 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

ROML 870. Minor Romance Tongues. 3 Credits.
Introduction to the historical development of Catalan, Rhaeto-Romance, and Rumanian. Readings in period texts.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

ROML 992. Master's (Non-Thesis). 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

ROML 993. Master's Research and Thesis. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

ROML 994. Doctoral Research and Dissertation. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

Spanish (SPAN)

Advanced Undergraduate and Graduate-level Courses

SPAN 401. Beginning Accelerated Spanish. 3 Credits.
Covers levels one and two of the basic language sequence in one semester. Designed for highly motivated undergraduate/graduate language learners, especially those who have experienced success with learning another language. Intensive approach to developing all skills but with an emphasis on speaking. Students may not receive credit for both SPAN 401 and SPAN 101, 102, 105 or 111.

Rules & Requirements
Grading Status: Letter grade.
Global Language: Level 1 & 2 combined.

SPAN 402. Intermediate Accelerated Spanish. 3 Credits.
A continuation of SPAN 401, covers levels three and four in one semester. Develops all skills, with increasing emphasis on reading, writing, and cultural analysis. Designed for highly motivated undergraduate/graduate language learners, especially those who have experienced success with learning another language. Prepares students for advanced courses. Students may not receive credit for both SPAN 402 and SPAN 203, SPAN 204 or SPAN 212.

Rules & Requirements
IDEAs in Action Gen Ed: GLBL-LANG.
Requisites: Prerequisite, SPAN 102, 105, 111, or 401.
Grading Status: Letter grade.
Global Language: Level 3 & 4 combined.

SPAN 404. Elementary Spanish for Health Professionals. 3 Credits.
Distance course requiring access to the Internet. Focuses on communication within the context of Latino/a immigrant culture in health care settings. Students may not receive credit for both SPAN 404 and SPAN 102 or 105.

Rules & Requirements
Grading Status: Letter grade.
Global Language: Level 2.

SPAN 405. Intermediate Spanish for Health Care Professionals. 3 Credits.
Distance course requiring access to the Internet. Focuses on improving communication within the context of Latino/a immigrant culture in health care settings. This course is equivalent to SPAN 203 (Intermediate Spanish I) and therefore fulfills the foreign language requirement. Students may not receive credit for both SPAN 405 and SPAN 203.

Rules & Requirements
IDEAs in Action Gen Ed: GLBL-LANG.
Requisites: Prerequisite, SPAN 102 or 404.
Grading Status: Letter grade.
Global Language: Level 3.

SPAN 414. Languages of Spain I. 3 Credits.
Study of the language and culture of one of the languages of Spain other than Spanish. Selection will vary according to term: Catalan, Euskera (Basque), Galician.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

SPAN 415. Languages of Spain II. 3 Credits.
Continuation of the study of the language and culture of one of the languages of Spain other than Spanish. Selection will vary according to term: Catalan, Euskera, Galician.

Rules & Requirements
Requisites: Prerequisite, SPAN 414.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

SPAN 416. Languages of the Americas I. 3 Credits.
Study of the language and culture of one of the languages of Spanish America other than Spanish. Selection will vary according to term: Mayan, Nahuatl, Quechua, Guarani.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

SPAN 417. Languages of the Americas II. 3 Credits.
Continuation of the study of the language and culture of one of the languages of Spanish America other than Spanish. Selection will vary according to term: Mayan, Nahuatl, Quechua, Guarani.

Rules & Requirements
Requisites: Prerequisite, SPAN 416.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

SPAN 601. Spanish for Reading. 3 Credits.
For students with no background in Spanish or those needing a review of grammatical structures and vocabulary in preparation for the reading knowledge exam for graduate students (FLPA).

Rules & Requirements
Grading Status: Letter grade.

SPAN 613. Colonial and 19th-Century Spanish American Literature. 3 Credits.
Advanced survey of literary works from 16th- through 19th-century Spanish America, with emphasis on their rhetorical foundations and historical, political, and aesthetic connections.

Rules & Requirements
Requisites: Prerequisites, SPAN 371 and 373.
Grading Status: Letter grade.

SPAN 614. Modernist and Contemporary Spanish American Literature. 3 Credits.
Advanced survey of Spanish American works from the 1880s through the present, with emphasis on their rhetorical foundations and historical, cultural, political, and aesthetic connections.

Rules & Requirements
Requisites: Prerequisites, SPAN 371 and 373.
Grading Status: Letter grade.

SPAN 617. Cervantes and the Quijote. 3 Credits.
Close reading of Cervantes' Quijote and selected Novelas ejemplares, with consideration of the background of Renaissance prose (romance of chivalry, pastoral, and sentimental novel) in relation to 16th-century historiography.

Rules & Requirements
Requisites: Prerequisites, SPAN 371 and 373.
Grading Status: Letter grade.

SPAN 620. Women in Hispanic Literature. 3 Credits.
The image of woman in 16th- and 17th-century Hispanic literature. A study of texts by Spanish and Spanish American authors. Readings in Spanish or in English translation. Lectures in English.

Rules & Requirements
Requisites: Prerequisites, SPAN 371 and 373.
Grading Status: Letter grade.
Same as: WGST 620.

SPAN 621. Literary and Cultural History of the Spanish Language. 3 Credits.
A historical study of the cultural and societal factors that influence the evolution of the Spanish language and its literature, from its first written documents in the ninth century to literatures written in Spanglish today.

Rules & Requirements
Requisites: Prerequisite, SPAN 300; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

SPAN 625. Indigenous Literatures and Cultures of the Américas. 3 Credits.
Panoramic view of indigenous literatures in the Américas through a study of a variety of indigenous textual production including chronicles, manifestos, novels, testimonial narratives, short stories, poetry, artistic production, and film.

Rules & Requirements
Grading Status: Letter grade.

SPAN 630. Literature and the Visual Arts in Spain. 3 Credits.
Study of the literature of the Iberian Peninsula and developments in the visual arts from the Middle Ages to the early 20th century.

Rules & Requirements
Grading Status: Letter grade.

SPAN 640. Topics in Hispanic Jewish Studies. 3 Credits.
This seminar examines selected topics in modern Hispanic Jewish culture, focusing on literature and film. Possible thematic approaches include identity, diaspora, migration, memory, statehood, life writing, and interreligious relations.

Rules & Requirements
Requisites: Prerequisites, SPAN 371 and 373; permission from the instructor for students lacking the prerequisite.
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 9 total credits. 3 total completions.
Grading Status: Letter grade.
Same as: JWST 640.

SPAN 650. The Spanish Comedia of the Golden Age. 3 Credits.
A comprehensive study of the Golden Age Spanish theater from its Renaissance beginnings through the 17th century.

Rules & Requirements
Requisites: Prerequisites, SPAN 371 and 373.
Grading Status: Letter grade.

SPAN 661. Film Studies: Iberia and the Americas. 3 Credits.
Advanced study of the history and theory of film produced in the Spanish- and Portuguese-speaking worlds for beginning graduate students and advanced undergraduates. Readings in film history and theory will build students' knowledge in cultural, political, and aesthetic issues. Class discussions emphasize critical and analytical thought.

Rules & Requirements
Requisites: Prerequisite, SPAN 361; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

SPAN 676. Advanced Spanish Phonology. 3 Credits.
Topics in Spanish phonology from a range of theoretical perspectives. Autosegmental theory, optimality theory (OT), syllable structure, stress and accent, and the interaction of phonology and morphology.

Rules & Requirements
Requisites: Prerequisite, SPAN 376; OR graduate standing; OR permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Same as: LING 676.

SPAN 677. Spanish Syntax. 3 Credits.
Why do we say in Spanish "me gusta" ("to me pleases") for "I like it"? Syntax studies how words associate in larger structures. This class provides the tools to understand the forms of different varieties of Spanish.

Rules & Requirements
Requisites: Prerequisite, SPAN 360; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

SPAN 678. History of the Spanish Language. 3 Credits.
SPAN 376 desirable. A theoretical study of the evolution of Spanish from classical and spoken Latin, focusing on phonological, morphological, and syntactic phenomena. Intended for linguistics majors.

Rules & Requirements
Requisites: Prerequisite, SPAN 360; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Same as: LING 678.

SPAN 679. Spanish Pragmatics. 3 Credits.
This course is an introduction to the study of meaning and language use, with a focus on Spanish. Includes discussion of the classical texts in the field as well as analysis of a variety of data (corpora, fieldwork, and experimental materials).

Rules & Requirements
Requisites: Prerequisite, SPAN 360.
Grading Status: Letter grade.

SPAN 680. First- and Second-Language Acquisition of Spanish. 3 Credits.
Why and how do children learn language so easily, and why is it so difficult for adults to learn a second language? This course examines these and related questions in the light of current theories of first and second language acquisition, with a focus on Spanish.

Rules & Requirements
Requisites: Prerequisite, SPAN 360; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

SPAN 681. Spanish Semantics. 3 Credits.
This course is an upper undergraduate/graduate-level introduction to the study of the meaning of words and sentences, with a focus on Spanish. It covers the following topics: truth-conditional theories of meaning, modality, quantification, reference, tense and aspect, Aktionsart. The course also addresses cross-linguistic data collection, e.g., field work and experimental methods.

Rules & Requirements
Requisites: Prerequisite, SPAN 360.
Grading Status: Letter grade.
Same as: LING 681.

SPAN 682. Spanish Sociolinguistics. 3 Credits.
Interdisciplinary approach to studying the Spanish language as a social and cultural phenomenon. Explores the relationship between language and culture, communicative competence and pragmatics, social and linguistic factors in language variation and change, attitudes toward language and language choice, linguistic prejudice and language myths, and language and identity.

Rules & Requirements
Requisites: Prerequisite, SPAN 360, 376, or 378.
Grading Status: Letter grade.

SPAN 683. Guaraní Linguistics. 3 Credits.
Guaraní, an official language of Paraguay, is the only indigenous language in the Americas (and possibly in the world) that is spoken natively by a nonindigenous majority. This seminar explores the linguistics of Guaraní: its typology, history, grammar, and sociolinguistics.

Rules & Requirements
Requisites: Prerequisite, SPAN 360; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

SPAN 684. Spanish Dialectology and Variation. 3 Credits.
Linguistic analysis of variation within the Spanish-speaking world. Special attention paid to contact situations between Spanish and other languages.

Rules & Requirements
Requisites: Prerequisite, SPAN 360; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

SPAN 691H. Honors Thesis. 3 Credits.
Required of students reading for honors. Preparation of an essay under the direction of a faculty member. Topic to be approved by thesis director in consultation with honors advisor.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

SPAN 692H. Honors Thesis in Spanish. 3 Credits.
Restricted to senior honors candidates. Second semester of senior honors thesis. Thesis preparation under the direction of a departmental faculty member.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

Graduate-level Courses

SPAN 701. Beginnings of Castilian Hegemony to 1369. 3 Credits.
Early medieval romance period (11th century to 1369). The establishment of Castilian hegemony studied through a variety of texts (chronicles, miracles, collections of law and exempla, fueros, epic and lyric poems).

Rules & Requirements
Grading Status: Letter grade.

SPAN 702. The Trastamara Dynasty: 1369 to 1504/1516. 3 Credits.
The final shaping of Castile, the beginning of nationhood, and American expansion studied through a variety of texts (chronicles, books of chivalry, lyric and narrative poems, sentimental novels, and travel narratives).

Rules & Requirements
Grading Status: Letter grade.

SPAN 709. Nonfiction Prose of the 16th and 17th Centuries. 3 Credits.
An examination of the histories, chronicles, and other documents written in Spain and Spanish American, with special emphasis on the literature of exploration.

Rules & Requirements
Grading Status: Letter grade.

SPAN 710. 19th-Century Spanish Novel. 3 Credits.
A study of the development of romanticism, costumbrismo, realism, and naturalism, principally through the novels of Gil y Carrasco, Pereda, Valera, Pérez Galdós, Pardo Bazán, Clarín, and Blasco Ibañez. .

Rules & Requirements
Grading Status: Letter grade.

SPAN 711. The Modern Spanish Novel. 3 Credits.
Trends in modern Spanish narrative fiction from 1898 to 1975. Modernism, Civil War, and dictatorship.

Rules & Requirements
Grading Status: Letter grade.

SPAN 712. The Contemporary Spanish Novel. 3 Credits.
Trends in contemporary Spanish narrative from 1975 to the present. Post-totalitarian fiction, postmodernism, and minority literatures.

Rules & Requirements
Grading Status: Letter grade.

SPAN 713. War, History, and Society in Iberian Narrative and Film. 3 Credits.
Focuses on the narrative production of Iberian literature in Castilian, Catalan, Basque, and Galician since 1936, with their corresponding film adaptations when available. Begins with the end of the Spanish Civil War, continuing with the years of the Francoist dictatorship and the transition to democracy, and concludes with Spain today.

Rules & Requirements
Grading Status: Letter grade.

SPAN 714. Golden Age Poetry. 3 Credits.
Selected poetic works from Garcilaso through Quevedo.

Rules & Requirements
Grading Status: Letter grade.

SPAN 715. Modern and Contemporary Spanish Poetry. 3 Credits.
Study of Spanish poetry from the 19th to the 21st centuries in terms of aesthetics and literary movements including romanticism, modernism, and postmodernism.

Rules & Requirements
Grading Status: Letter grade.

SPAN 716. Contemporary Lyric Poetry. 3 Credits.
Major poets from the Generation of 1927 to the present.

Rules & Requirements
Grading Status: Letter grade.

SPAN 725. Golden Age Prose. 3 Credits.
The major prose works of the Golden Age, excluding those of Cervantes.

Rules & Requirements
Grading Status: Letter grade.

SPAN 737. Topics in Contemporary Literary and Cultural Theory. 3 Credits.
Study of major topics in modern theory such as identities, time, space, history, nation, language, text, and image, from modernity to post-modernity and beyond.

Rules & Requirements
Grading Status: Letter grade.

SPAN 738. Topics in the Intellectual History of Spain. 3 Credits.
Historical concepts such as power, ideology, class, culture, identity, attitude, race, perception, and methods as they developed among elite and nonelite groups of the 16th and 17th century Spanish society. Focuses on evolution of ideas, sciences, arts, techniques, and cultural expression of social movements - nationalism, colonialism, racism - and historical reflection.

Rules & Requirements
Grading Status: Letter grade.

SPAN 741. The Essay and Short Story. 3 Credits.
Theory and practice of the essay and short story. Topics include masters of the Spanish American and international essay and short story, the evolution of both genres, gender, cultural studies.

Rules & Requirements
Grading Status: Letter grade.
Same as: CMPL 741.

SPAN 742. Poiesis in Spanish America. 3 Credits.
Theories and practices of literary creation across genres and periods.

Rules & Requirements
Grading Status: Letter grade.

SPAN 743. Topics in Spanish American Performance Studies. 3 Credits.
A thorough grounding in contemporary plays in the Spanish-speaking Americas. Topics include performing class, ethnicity, and gender; parody; staging nations; politics of metatheatre; postmodern agency; and the performance of everyday life.

Rules & Requirements
Grading Status: Letter grade.

SPAN 744. The Aesthetics of the Baroque in Spanish American Literature. 3 Credits.
The origin, development, and persistence of a baroque aesthetic in Spanish American literature through an examination of diverse theories of baroque and close readings of representative texts.

Rules & Requirements
Grading Status: Letter grade.

SPAN 745. The Vanguards. 3 Credits.
The theory and practice of innovative writing, especially since the 19th century. Topics include the historical Spanish American and Anglo-European vanguards, experimental literature, modernismo's literary rebellion, gender, and cultural studies.

Rules & Requirements
Grading Status: Letter grade.
Same as: CMPL 745.

SPAN 746. The Novel in Spanish America. 3 Credits.
The novel to 1960. The course examines romanticism, realism, naturalism, modernism, and the new national literatures through such authors as Avellaneda, Blest Gana, Silva, Asturias, Carpentier, Rulfo, Bombal, and Vargas Llosa.

Rules & Requirements
Grading Status: Letter grade.

SPAN 747. The Contemporary Spanish American Novel. 3 Credits.
The theory and practice of the novel since the 1960s. Topics include the Spanish American "Boom" of the 60s and 70s, major international trends and writers, gender, cultural studies.

Rules & Requirements
Grading Status: Letter grade.
Same as: CMPL 747.

SPAN 750. Enlightenment and Romanticism in Spain. 3 Credits.
Readings from 18th and 19th-century Spanish authors in various genres.

Rules & Requirements
Grading Status: Letter grade.

SPAN 834. Seminar in Peninsular Spanish Literature and Culture. 3 Credits.
Topic determined by instructor and announced in advance.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 9 total credits. 3 total completions.
Grading Status: Letter grade.

SPAN 835. Seminar in Spanish American Literature. 3 Credits.
Topic determined by instructor and announced in advance.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 9 total credits. 3 total completions.
Grading Status: Letter grade.

SPAN 836. Seminar Spanish/Spanish American Transatlantic Topics. 3 Credits.
Topic determined by instructor and announced in advance.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 9 total credits. 3 total completions.
Grading Status: Letter grade.

SPAN 840. Special Readings. 1-15 Credits.
Doctoral students only.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

SPAN 992. Master's (Non-Thesis). 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

SPAN 993. Master's Research and Thesis. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

SPAN 994. Doctoral Research and Dissertation. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

Contact Information

Department of Romance Studies
Visit Program Website (http://romancestudies.unc.edu)

Chair
Bruno Estigarribia
estigarr@email.unc.edu

Director of Graduate Studies
Lamar Graham
lagraham@email.unc.edu

SCHOOL OF SOCIAL WORK (GRAD)

The School of Social Work offers programs leading to the M.S.W. and the Ph.D. degrees.

Admission into the M.S.W. program is based on an evaluation of the applicant's transcripts, references, written statement of interest in the field, prior experience, and readiness to undertake graduate professional education. To be considered for admission, the applicant must have a bachelor's degree from an accredited college or university, preferably with a broad liberal arts preparation in social and biological sciences and the humanities.

In the admissions process for the Ph.D. program, students are asked to provide evidence of

- A master's degree in social work from a school accredited by the Council on Social Work Education or, less preferably, in a related discipline
- Academic ability, as demonstrated in academic achievement
- Writing ability, as demonstrated in a writing sample
- Commitment to the values, goals, and purposes of the social work profession
- Professional experience in human services, and
- A direction for and commitment to scholarly work congruent with the objectives and resources of the doctoral program.

Social Work, 2-Year & 3-Year Master's Program (M.S.W.)

2-Year

Students complete the M.S.W. generalist curriculum of 29 credit hours that covers content related to human behavior and the social environment, institutionalized discrimination, social work practice, social policy, and research. In the evidence-informed practice specialization curriculum, students choose among two concentrations for an additional 33 academic credit hours: the community, management and policy practice concentration (CMPP), and the direct practice concentration (DP). The CMPP concentration prepares students for advanced social work practice related to administration, management, and community and policy practice. The DP concentration prepares students for advanced social work practice with individuals, families, and groups.

In both the M.S.W. generalist and specialization curriculum, students also enroll in practicum education in addition to their classroom-based coursework. In practicum education, M.S.W. students are placed in more than 250 government, nonprofit, and other human services agencies each semester of their studies. Through these practicums, students receive hands-on experience working in a wide array of practice areas such as anti-poverty programs, child welfare, community and program development, family violence, healthcare, behavioral health, among others.

Students develop coherent and cohesive plans of study to meet their M.S.W. degree requirements in consultation with faculty advisors. They select courses to meet their individual professional and educational goals, while also meeting the academic requirements of their concentration. In addition, students can explore content outside of their concentration and use elective credits to pursue learning goals related to diverse areas of interest. The typical time for degree completion is four semesters of full-time study.

3-Year

Additionally, students can earn an M.S.W. degree via a three-year program. In the first year, students take two courses each semester. In the second year of this program, students take two courses each semester, participate in a practicum seminar, and complete 16 hours per week in a practicum setting. Their final year, students in this program complete the specialization curriculum.

Course Requirements

Code	Title	Hours
Core Courses		
SOWO 500	Human Development in Context I: Infancy to Adolescence	3
SOWO 501	Oppression and Resistance in Social Work Practice	3
SOWO 505	Human Development in Context II: Adulthood	3
SOWO 510	Foundations for Evidence-Based Practice and Program Evaluation	3
SOWO 530	Social Welfare Systems and Policies	3
SOWO 540	Social Work Practice with Families, Individuals, and Groups	3
SOWO 570	Social Work Practice with Organizations and Communities	3
SOWO 520	Social Work Generalist Practicum I	3
SOWO 521	Social Work Generalist Practicum II	3
SOWO 523	Generalist Practicum Seminar I	1
SOWO 524	Generalist Practicum Seminar II	1
Specialization Practice Course:		3
SOWO 740	Implementing Evidence-Informed Practice w/ Individuals, Families Groups	
or SOWO 770	Implementing Evidence-Informed Practice with Organizations and Communities	
Specialization Theory/Advanced Practice Course – Students choose one from the following courses:		3
SOWO 840	Adult Mental Health: Theory and Practice	
SOWO 841	Child and Adolescent Mental Health: Theory and Practice	
SOWO 842	Families: Theory and Practice	
SOWO 843	Older Adults: Theory and Practice	
SOWO 845	Health: Theory and Practice	
SOWO 874	Administrative and Management: Theory and Practice	
SOWO 875	Interorganizational and Community-Level Theory and Practice	
SOWO 881	Development Theory and Practice in Global Settings	
Specialization Policy Course – Students choose one from the following courses:		1.5
SOWO 831	Addiction and Public Policy: Implications for Practice	
SOWO 832	Child Welfare Policy Practice and Advocacy	
SOWO 834	Advanced Policy Practice	
SOWO 835	Poverty Policy	
SOWO 836	Health Access and Health Disparities	

SOWO 837	Disability Policy	
Specialization Practicum:		12
SOWO 820	Social Work Specialization Practicum I	
SOWO 821	Social Work Specialization Practicum II	
Electives		
Elective courses must be graduate level and related to the student's M.S.W. learning and professional goals. At least 3 credit hours of electives must be taken in the School of Social Work.		10.5
Thesis/Substitute or Dissertation		
SOWO 810	Evaluation of Social Work Interventions [1]	3
Minimum Hours		**62**

[1] All students must complete this Specialization Research Course as part of their Concentration.

Milestones

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 27) for more information.

- Master's Committee
- Master's Oral Exam / Approved Substitute (SOWO 810)
- Thesis Substitute (SOWO 810)
- Residence Credit
- Exit Survey

Social Work, Online Master's Program (M.S.W.)

Students in the online M.S.W. program will follow the same curriculum requirements as students in the 2-year and 3-year M.S.W. programs and will be required to complete the same total number of credit hours (62). The only difference will be that their advanced policy course requirement will be 3 credit hours (instead of 1.5 credit hours as it is for students in the other M.S.W. programs) and they must complete 9 credit hours of elective credits instead of 10.5 elective credit hours as is the case with students in the 2-year and 3-year M.S.W. programs.

Course Requirements

Code	Title	Hours
Core Courses		
Students in the online M.S.W. program must complete all of the following:		
SOWO 500	Human Development in Context I: Infancy to Adolescence	3
SOWO 501	Oppression and Resistance in Social Work Practice	3
SOWO 505	Human Development in Context II: Adulthood	3
SOWO 510	Foundations for Evidence-Based Practice and Program Evaluation	3
SOWO 530	Social Welfare Systems and Policies	3
SOWO 540	Social Work Practice with Families, Individuals, and Groups	3
SOWO 570	Social Work Practice with Organizations and Communities	3
SOWO 520	Social Work Generalist Practicum I	3
SOWO 521	Social Work Generalist Practicum II	3
SOWO 523	Generalist Practicum Seminar I	1
SOWO 524	Generalist Practicum Seminar II	1
Specialization Practice Course:		3
SOWO 740	Implementing Evidence-Informed Practice w/ Individuals, Families Groups	
or SOWO 770	Implementing Evidence-Informed Practice with Organizations and Communities	
Specialization Theory/Advanced Practice Course – Students choose one from the following courses:		3
SOWO 840	Adult Mental Health: Theory and Practice	
or SOWO 875	Interorganizational and Community-Level Theory and Practice	
Specialization Policy Course:		3
Specialization Policy course (online option) is in development for Summer 2025		
Specialization Practicum:		12
SOWO 822	Social Work 20-Month Advanced Standing Specialization Practicum I	
SOWO 823	Social Work 20-Month Advanced Standing Specialization Practicum II	
SOWO 824	Social Work 20-Month Advanced Standing Specialization Practicum III	
Electives		
Elective courses must be graduate level and related to the student's M.S.W. learning and professional goals. At least 3 credit hours of electives must be taken in the School of Social Work.		9
Thesis/Substitute or Dissertation		
SOWO 810	Evaluation of Social Work Interventions [1]	3
Minimum Hours		**62**

[1] All students must complete this Specialization Research Course as part of their Concentration.

Milestones

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 27) for more information.

- Master's Committee
- Master's Oral Exam / Approved Substitute (SOWO 810)
- Thesis Substitute (SOWO 810)
- Residence Credit
- Exit Survey

Social Work, 12-Month Advanced Standing Program (M.S.W.)

Graduates of undergraduate social work programs that are accredited by the Council on Social Work Education who meet specific course and admissions requirements are eligible to apply for the advanced standing program. In the advanced standing program, students fulfill the degree requirements in 12 months beginning in May of each year.

Course Requirements

Code	Title	Hours
Students in the advanced standing M.S.W. program must complete the following "Bridge" courses during the summer term in order to enter the Specialization Curriculum in the fall:		
SOWO 522	Pre-Specialization Practicum for Advanced Standing Students	4
SOWO 702	Human Development in Context	1.5
SOWO 712	Foundations for Evidence-based Practice and Program Evaluation	1.5
SOWO 732	Advanced Standing Bridge Course: Social Welfare Policy & Institutional Oppression	1.5
SOWO 772	Integrative Bridge Course: Practice Overview	1.5
Specialization Practice Course:		3
SOWO 740	Implementing Evidence-Informed Practice w/ Individuals, Families Groups	
or SOWO 77(	Implementing Evidence-Informed Practice with Organizations and Communities	
Specialization Theory/Advanced Practice Course – Students choose one from the following courses:		3
SOWO 840	Adult Mental Health: Theory and Practice	
SOWO 841	Child and Adolescent Mental Health: Theory and Practice	
SOWO 842	Families: Theory and Practice	
SOWO 843	Older Adults: Theory and Practice	
SOWO 845	Health: Theory and Practice	
SOWO 874	Administrative and Management: Theory and Practice	
SOWO 875	Interorganizational and Community-Level Theory and Practice	
SOWO 881	Development Theory and Practice in Global Settings	
Specialization Policy Course – Students choose one from the following courses:		1.5
SOWO 831	Addiction and Public Policy: Implications for Practice	
SOWO 832	Child Welfare Policy Practice and Advocacy	
SOWO 834	Advanced Policy Practice	
SOWO 835	Poverty Policy	
SOWO 836	Health Access and Health Disparities	
SOWO 837	Disability Policy	
Specialization Practicum:		12
SOWO 820	Social Work Specialization Practicum I	
SOWO 821	Social Work Specialization Practicum II	
Electives		
Elective courses must be graduate level and related to the student's M.S.W. learning and professional goals. At least 3 credit hours of electives must be taken in the School of Social Work.		7.5
Thesis/Substitute or Dissertation		
SOWO 810	Evaluation of Social Work Interventions [1]	3
Minimum Hours		**40**

[1] All students must complete this Specialization Research Course as part of their Concentration.

Milestones

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 27) for more information.

- Master's Committee
- Master's Oral Exam / Approved Substitute (SOWO 810)
- Thesis Substitute (SOWO 810)
- Residence Credit
- Exit Survey

Social Work, Doctoral Program (Ph.D.)

The Ph.D. program curriculum is grounded in core courses designed to understand, analyze, and intervene in social problems. Thorough training is offered in theory, research methodology, data analysis, and intervention development and testing. Students design their program of study to focus on a social problem of interest and are matched with faculty mentors to guide them in their work. Students publish, apply for grant funding, and complete a teaching practicum. They have rich opportunities for both independent teaching and research.

Students should refer to the Student Handbook (https://ssw.unc.edu/wp-content/uploads/sites/509/2023/08/DOCTORAL-MANUAL-2023-2024-FINALwcover.pdf) for additional course, milestone, and recommended checklist details.

Course Requirements

Code	Title	Hours
Core Courses		
SOWO 900	Conceptualizing Social Problems to Inform Interventions	3
SOWO 910	Research Methods in Social Intervention	3
SOWO 911	Introduction to Social Statistics and Data Analysis	3
SOWO 913	Advanced Research Methods in Social Intervention	3
SOWO 914	Measurement in Intervention Research	3
SOWO 918	Applied Regression Analysis and Generalized Linear Models	3
SOWO 919	Special Topics in Doctoral Research [1]	3
SOWO 921	Qualitative Analysis	3
SOWO 923	Systemic Reviews and Introduction to Meta-Analysis	3
SOWO 940	Development of Social Intervention Models	3
SOWO 941	Teaching Practicum	3
Electives [2]		**6**
6 credit hours of Electives required (it is recommended that students consider taking one of the following courses after completing SOWO 918):		
SOWO 916	Structural Equation Modeling	
SOWO 917	Longitudinal and Multilevel Analysis	
In addition, students must complete at least one substantive course for 3 credit hours outside the School of Social Work. This requirement can also be met by taking SOWO 924.		
Thesis/Dissertation or Susbstiute		
SOWO 994	Doctoral Research and Dissertation [3]	6
Minimum Hours		**48**

[1] Two sections, 1.5 credit hours each.

[2] Electives must be at the 700-level or above. Students may take SOWO 919 as a substantive elective. Students may add as many electives as they wish.

[3] Once students have advanced to candidacy, they must enroll for at least two semesters of dissertation credit (3 credits each). They must register for 994 in each semester, including the semester in which they defend their dissertation, until they graduate.

Milestones

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 27) for more information.

- Doctoral Committee
- Doctoral Oral Comprehensive Exam
- Doctoral Written Exam
- Prospectus Oral Exam
- ABD / Advanced to Candidacy
- Dissertation Defense
- Doctoral Dissertation Approved/Format Accepted
- Residence Credit
- Exit Survey
- Doctoral Teaching Experience (Independent Teaching as Instructor of Record)

Recommended Checklist

Students are encouraged to complete the following Recommended Checklist items. Please consult the Student Handbook (https://ssw.unc.edu/wp-content/uploads/sites/509/2023/08/DOCTORAL-MANUAL-2023-2024-FINALwcover.pdf) for more information.

- Lunch and Learns
- Attendance and presentation at conferences, i.e., CSWE and SSWR
- Publications

Following the faculty member's name is a section number that students should use when registering for independent studies, reading, research, and thesis and dissertation courses with that particular professor.

Dean

Ramona Denby-Brinson (107), Child Welfare, Kinship Care, Foster Care, Children's Mental Health, Juvenile Justice, Culturally-Specific Child Welfare Services, African American Children and Families, Child Welfare Policy and Programming

Vice Dean

Robert Hawkins (103), Poverty Reduction, Social Capital, Social Policy, Qualitative Research, Cross-Cultural Issues, Human Behavior, Global Social Work

Distinguished Professors

Mimi V. Chapman (293), Child and Adolescent Health, Mental Health and Well-Being, Latino Migration and Adaptation, In-Country Chinese Migration and Social Work Practice, Provider Preparation for Working with Diverse Populations, Mental Health Service Use, Visual and Arts-Based Methods and Interventions
Gina A. Chowa (206), International Social Development, Asset Building, HIV/AIDS, Social Protection and Financial Capability
Trenette Clark Goings (304), Health Disparities, Substance Use Prevention, Prevention Science, Adolescence and Emerging Adulthood
Emily Putnam-Hornstein (239), Child Abuse and Neglect, Fatal Child Maltreatment, Child Protective Services, Administrative Data, Record Linkage, Predictive Risk Modeling
Kimberly J. Strom (038), Professional Ethics, Moral Courage, Leadership, Higher Education
Sheryl Zimmerman (295), Evaluation of Practice, Social Gerontology, Psychosocial Aspects of Health, Long-Term Care, Outcome Research, Methods for Studying Older Populations, Dementia, Assisted Living, Nursing Homes

Professors

Paul J. Lanier (027), Child Maltreatment Prevention, Child Well-Being, Parenting, Evidence-Based Practice

Clinical Professors

Travis J. Albritton (200), Public Child Welfare, Substance Abuse Services, Spirituality and Social Work Practice, Family and Community Social Supports
Andrea J. Murray Lichtman (281), Critical and Ethical Practice, Spirituality and Health/Mental Health in Clinical Practice, Criminal-Legal System, Mental Illness, Prevention and Intervention of Substance Misuse, Global, Social, and Ethical Practice in Research, Policy, and Practice
Sarah M. Naylor (256), Academic Advising, Qualitative Research, Higher Education, Program Evaluation
Tina M. Souders (007), Professional Ethics, Social Work and the Law, Macro Practice with Organizations and Communities, Instructional Design and Technology
Sarah B. Verbiest (203), Maternal and Infant Health, Women's Health, Health Equity, Primary Prevention, Leadership Development, Partnership Building, Boundary Spanning, Strategic Planning, Reproductive Justice

Professor of the Practice

Allison J. Metz (230), Child Welfare, Early Childhood, Implementation Science, Implementation Practice, Research on Evidence Use, The Role of Trust and Relationships in Evidence Use, The Role of Teams and Leadership in Public Systems

Research Professors

Dean F. Duncan III (218), Human Trafficking, Child Welfare, Youth Aging Out of Foster Care, Management of Human Services Agencies, Research Methods, Community Collaboration
Virginia C. Strand (247), Complex Trauma in Children and Adolescents, Implementation Science, Common Elements Research, Workforce Development in Behavioral Health and Child Welfare

Associate Professors

David Ansong (082), Educational and Economic Disparities, Financial Capability and Asset Building, Child and Youth Well-Being
Joy Noel Baumgartner (217), Adolescent Health and Well-Being, Severe Mental Illness, Global Mental Health Services Research, Integrated Care
Sarah E. (Betsy) Bledsoe (202), Mental Health Services Research, Intervention Research, Implementation Science, Evidence-Based Practice, Perinatal, Maternal, Child, Adolescent, and Adult Mental Health Focusing on Mood, Anxiety, and Trauma Disorders, Culturally and Community Relevant Practices, Low-Income Populations Mental Health, Rural Mental Health, Mental Health of Immigrants, Refugees and Asylees, Community Based Participatory and Engaged Research, Interpersonal Psychotherapy,

Health Disparities, Mental Health Workforce Development, Translational Research

Cynthia Fraga (234), Intimate Partner Violence, Child Exposure to Intimate Partner Violence, Human Trafficking, Latinx and Immigrant Survivors of Intimate Partner Violence, Coping, Parenting, Intervention Development and Evaluation

Rachel Goode (361), Psychosocial Interventions for Obesity Prevention and Treatment, Assessment and Treatment of Disordered Eating Behaviors, Racial and Ethnic Disparities in Obesity Prevalence and Treatment Outcomes, Design and Conduct of Community-Based Health Promotion Interventions, Racial Reconciliation and Healing, Spirituality in Social Work Practice, Qualitative Research

William Hall (362), Mental Health, Health Disparities, School Bullying, Cultural Competency and Humility, Social Policy, Sexual Orientation, Adolescent Development, LGBTQ Issues

Hsun-Ta Hsu (038), Homelessness, Firearm Violence Exposure, Community-Engaged Data Science, Health Promotion

Melissa A. Lippold (260), Parenting and the Prevention of Adolescent Risky Behavior, Family Stress and Coping, Family-Based Preventive Interventions

Rainier Masa (23), Economic and Social Aspects of Health, HIV Prevention and Treatment, Food and Nutrition Security, Adolescents and Young Adults in Low Resource Settings, Intersectional Stigma and Resiliency

Amy E. Wilson (225), Public Mental Health Services, Dual Diagnosis, Serious Mental Illness, Reentry from Jails/Prisons, Mental Illness and Criminal Justice

Lisa D. Zerden (222), Integrated Behavioral Health Care, Health Workforce Research, Behavioral Health, Substance Use Disorders (SUD) Prevention, Health Disparities and Access, Injection Drug Use and Harm Reduction, Interprofessional Education and Practice.

Clinical Associate Professors

Deborah Barrett (246), Direct Practice, Chronic Pain, Dialectical Behavioral Therapy, Mindfulness, Group Work

Kathleen Colville (220), Policy Process Research, Narrative Policy Framework, Civic Engagement, Grassroots Social Change Processes, Social Determinants of Health and Well-Being, Health Equity, Emergency Preparedness and Response, Environmental Justice

Melissa L. Godwin (210), Substance Abuse Prevention and Intervention, School-Based Mental Health Services, Gender Issues, Clinical Social Work

Michael E. McGuire (294), Adolescent and Family Development, Harm Reduction, Substance Use Treatment, Experiential Learning, Issues Around Military Families, Motivational Interviewing, Feedback Informed Treatment, Clinical Supervision, Clinical Model Implementation, Ethics, Workforce Development

Sherry C. Mergner (275), Disability Rights and Advocacy, Autism Spectrum Disorder (ASD), Intellectual and Developmental Disabilities (IDD), Families of Neurodivergent or Disabled Individuals, Emotional and Sensory Regulation Intervention Strategies, Modified Dialectical Behavioral Therapy with Neurodivergent and Disabled Individuals, and LGBTQ+ Issues

M. Theresa Palmer (258), Clinical Practice with Children, Adolescents, and Families, Clinical Supervision, Microaggressions and Hidden Bias, Field Education, Environmental Social Work

Laurie J. Selz-Campbell (240), Support for Adults and Parents with Severe Mental Illness, Arts-Based Interventions, Dialogue-Based Interventions, Social Welfare Policy

Sharon Thomas (261), Adolescent Pregnancy Prevention and Risk Behaviors, Families and Children, Interventions with Families of Color, International Social Work Education

Tauchiana J. Williams (259), School Social Work, Child and Adolescent Mental Health, Trauma

Research Associate Professors

Kanisha C. Brevard (247), Child Welfare Policy and Research, Program Evaluation, Racial Disparities in Child Welfare

Steven H. Day (387), Program Evaluation, Intervention Research, Delinquency Prevention, Arts-Based Intervention

Crystal Joy Stewart (242), Child Welfare, Research Methods, Program Evaluation, Data Science, Youth Aging Out of Foster Care, Trauma-Informed Care, Human Trafficking

Tonya B. VanDeinse (333), Adults with Mental Illness, Criminal Justice, Mental Health Services, Implementation Science

Assistant Professors

Rebecca Rebbe (291), Child Maltreatment, Child Neglect, Child Injury, System Responses to Child Maltreatment, Child Well-Being Policy, Child Protection Systems, Data Science, Linked Administrative Data, Data Visualization

Sonyia Richardson (235), Mental Health and Well-Being, Mental Health Service Use, Suicide Prevention and Practice Interventions, Urban Education

Millicent Robinson (213), Black Health and Healing, Women's Health, Interconnections between Mental and Physical Health, Stress and Coping, Mindfulness and Heartfulness, Holistic Well-Being Across the Life Course, Spirituality in Social Work Practice, Health Equity, Design, Implementation, Evaluation of Culturally Relevant Interventions to Address Health Disparities

Ankur Srivastava (91), LGBTQ Behavioral Health, Multiple Minority Stress, Sexual Identity Management, Sexual Identity Fluidity, Homelessness, Exchange and Survival Sex, HIV Prevention and Care

Bridgette Thom (360), Social Determinants of Health, Health-Related Financial Hardship, Mixed Methods Research, Healthcare Affordability, Financial Capability, Oncology

Tess Thompson (101), Cancer Survivorship, Psychosocial Oncology, Caregiving, Social Determinants of Health, Health Promotion, Health Disparities

Orrin Ware (232), Substance Use, Substance Use Disorders, Co-Occurring Substance Use and Mental Health Disorders

Clinical Assistant Professors

Benjamin Balderas (201), Child Welfare, Nonprofit Management and Leadership, Community Management and Policy Practice (CMPP)

Mellicent O. Blythe (203), Trauma-Informed Practice, Community Mental Health, Workforce Development, Public Policy, Implementation of Evidence-Based Treatments

Jaylen Cates (243), Community-Based Food Systems, Food Access, Community Development, Shared Governance, Group Facilitation, Organizational Development

Michelle Chamber-Rollins (216), Mental Health and Well-Being in Black Women, Substance Misuse and Addiction in Black Women, Intersectionality and Mental Health Treatment, Child Welfare, Community-Based Interventions and Mental Health

Jacqueline Coleman-Carmon (105), Health Disparities and Inequities in the African American Women, Trust Among African American Women and Their Health Care Providers, Critical Dimensions of DEI Among Providers in Healthcare, African American Women and Menopause

Matthew Diehl (244), Evidence-Based Mental Health Practices, Community Inclusion, Disability Rights, Practicum Education, Cultural Humility, Social Justice

Alyssa Draffin (204), Trauma-Informed Healthcare, Impacts of Trauma on Physical Health, Direct Practice for Adults and Children, Alternative Therapies as a Mechanism for Neuroplasticity, Generational Trauma, Epigenetics, Psychedelics for Treatment Resistant Mental Illness

Agha Erum (226), Services for Immigrant and Refugee Populations, Cultural Adaptation of Interventions, Social Work with Communities, Treatment of Trauma, Public Mental Health

Theresa Flores (227), Mental Health, Racial Equity and Access, Cultural Considerations and Humility, Generational Trauma, Neurodiversity, LGBTQ Issues, Integrated Care, Trauma Informed Practice

Rachel Foster (205), Child Welfare, Attachment and Child Maltreatment, Pre-and Perinatal Development, Interpersonal and Self-Directed Violence (Prevention and Response), Role Transitions and Acculturation, Military Sexual Assault/Trauma, Military Transitions

Sasha Frinzl (209), Clinical Practice with Children, Adolescents and Families, Trauma, Social Work Field Education

Crystal P. Grant (235), School Social Work, School-Based Mental Health, Practicum Education, Clinical Practice with Children, Adolescents, and Families, Clinical Supervision, Criminal Justice, Integrated Behavioral Health

Karon F. Johnson (229), Trauma-Informed Practice, Grief and Loss, Crisis Intervention, Spirituality and Social Work, Culturally Relevant Practice, Ethics in Work with Diverse Populations

Jessica Lambert Ward (219), Community Management and Policy Practice (CMPP), Community Capacity Building, Cultivating Cultures of Care and Mutuality in Communities and Organizations, Culturally Relevant Practice, Indigenous Populations, Intergenerational Trauma and Resilience, Practical Applications of Indigenous Knowledge, Organizational and Community Change, Social Justice, Student Success and Retention in Higher Education

Amy S. Levine (236), Child Welfare Practice, Child and Adolescent Mental Health, Clinical Practice, Trauma-Informed Care, Professional Wellness and Resilience, Social Work Practicum Education, Social Work Curriculum Development

Tywan Lindsey (314), Intake and Crisis Assessment, Bias and Disparities in Mental Health Treatment, Assessment and Diagnosis

Amy Locklear Hertel (325), Asset Building, American Indian Self-Determined Community Building, Tribal Sovereignty, Native Nation Building

Matthew Morgan (313), Aging Services & Gerontology, End-of-Life Care, Medical Social Work, Health Equity, Public Health, Communities and Neighborhoods, Community-Engaged Research, Critical Theory, Racial Equity and Access

April S. Parker (250), Maternal Mental Health, Mental Health Equity, Cultural Humility, Social and Racial Justice, Anti-Racist and Anti-Oppressive Practices, Clinical Supervision, Clinical Social Work, Social Work with Groups, International Social Work Practice

Michele Patak-Pietrafesa (092), School Social Work; Private Practice; Neurodiversity; School-to-Prison Pipeline; Social Model of Disability; Universal Design for Learning; Equitable and Inclusive Educational Practices; Intergroup Relations; and Intergroup Dialogue, Special Education Policy; Policy Analysis; Lobbying and Advocacy; Critical Theories; Organizational Behavior; Systems Science; Implementation Science; Social Network Analysis and Interventions; Program Proposal, Development, Implementation, Management, and Evaluation; Research Methods, Structural Equation Modeling

Sarah Patterson (312), School Social Work, Children and Families, Juvenile Justice, International Social Work, Cultural Humility, Practicum Education

Adrienne Slaughter (311), Adult Mental Health, Trauma, Personality Disorders, Health Determinant in Black Families Specifically Menopausal Women, Low Income Population Policies, Food Desserts, Community Gardens, Policing in Black Communities

Jenny Smith (221), Adult Mental Health, Clinical Supervision, Grief and Loss, Autism Spectrum Disorder (ASD), Clinical Social Work, and Health and Wellness in Higher Education

Christopher Toenes (257), Adult Mental Health Treatment, Substance Use Treatment, Substance Use Policy, Trauma Treatment, Trauma-Informed Care, Complicated Grief and Loss, Culturally Responsive and Anti-Oppressive Clinical Practice, Clinical Practice with Members of LGBTQIA Community

Carynne Williams (310), Faith and Spirituality in SW Practice, Treatment for Depression, Anxiety, Trauma, Men's Issues, Community Development, Government, Nonprofits

Research Assistant Professors

Brianna Lombardi (212), Integrated Behavioral Health, Behavioral Health, Heath Workforce

Kathleen Malley (207), Educational Psychology, Child Development and Well-Being, Child Welfare, School Engagement and Outcomes, Public Assistance Utilization, Program Evaluation, Administrative Data, Quantitative and Qualitative Methods and Analysis, School Counseling

Professors Emeriti

Gary L. Bowen
Iris Carlton-LaNey
Mark Fraser
Dorothy N. Gamble
Marilyn A. Ghezzi
Michael Lambert
Hortense K. McClinton
Gary Nelson
Dennis Orthner
Jack M. Richman
Amelia Roberts-Lewis
Kathleen A. Rounds
Mark Testa
Charles Lindsey (Lynn) Usher
Marie Weil
Irene Zipper

SOWO

Advanced Undergraduate and Graduate-level Courses

SOWO 403. Social Work Study Abroad. 1-6 Credits.
Variable content. Course examines international social issues, programs, and policies and their impact on client populations and cultures in a particular country or global region.

Rules & Requirements
Grading Status: Letter grade.

SOWO 404. Social Work Study Abroad: Africa. 1-6 Credits.
Course examines social issues, development strategies, health/mental health programs. Explores how country's fledgling democracy and people are redesigning organizations and interventions to respond to the needs of South Africans.

Rules & Requirements
Grading Status: Letter grade.

SOWO 489. Public Service and Social Change. 4 Credits.
Course examines the role of volunteer involvement and citizen participation in community development, grassroots organizing, advocacy, and other efforts to create a more just and democratic society. Includes a service-learning requirement.

Rules & Requirements
Grading Status: Letter grade.

SOWO 490. Preprofessional Special Topic. 1-6 Credits.
Focuses on current professional social work issues. The focus will be specified each time the course is offered.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 6 total credits. 6 total completions.
Grading Status: Letter grade.

SOWO 491. Community Organizing for Social Change. 4 Credits.
Course examines different types of advocacy strategies and their use in efforts both to enhance the delivery of services to disadvantaged populations and to promote social change in communities.

Rules & Requirements
Grading Status: Letter grade.

SOWO 492. Seminar in Service Learning. 1-6 Credits.
Participants explore frameworks, values, and skills around the democratic principles of service, citizenship, and social justice. Accompanies an intensive, paid internship in a local nonprofit agency.

Rules & Requirements
IDEAs in Action Gen Ed: HI-SERVICE.
Repeat Rules: May be repeated for credit. 6 total credits. 6 total completions.
Grading Status: Letter grade.

SOWO 495. Undergraduate Research in Social Work. 1-6 Credits.
Research under the supervision of a selected instructor. Approved learning contract required. Permission of the instructor and school required.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 12 total completions.
Grading Status: Letter grade.

SOWO 500. Human Development in Context I: Infancy to Adolescence. 3 Credits.
This course provides an overview of child and adolescent development in an environmental context, using an anti-oppressive lens to analyze major theoretical frameworks.

Rules & Requirements
Grading Status: Letter grade.

SOWO 501. Oppression and Resistance in Social Work. 3 Credits.
Through personal reflexivity and historical/systemic analysis, this course examines dynamics of institutional oppression through a critical theory lens. Students explore implications for social work practice, including professional complicity and resistance.

Rules & Requirements
Grading Status: Letter grade.

SOWO 505. Human Development in Context II: Adulthood. 3 Credits.
This course provides an overview of adult development in environmental and systemic contexts, using critical and anti-oppressive approaches to the analysis of major developmental frameworks.

Rules & Requirements
Grading Status: Letter grade.

SOWO 510. Foundations for Evidence-Based Practice and Program Evaluation. 3 Credits.
Develop knowledge of evidence-based practice, including skills needed to identify, acquire, and assess appropriate interventions for practice and skills required to evaluate their own social work practice.

Rules & Requirements
Grading Status: Letter grade.

SOWO 520. Social Work Generalist Practicum I. 3 Credits.
Students learn generalist competencies and behaviors by demonstrating core knowledge, skills, and values through direct (individuals, families, small groups) and macro (organizations, communities) practice in an agency setting (Field Fee: $300).

Rules & Requirements
Grading Status: Letter grade.

SOWO 521. Social Work Generalist Practicum II. 3 Credits.
A continuation of SOWO 520, students demonstrate an increased knowledge of generalist competencies and behaviors through direct (individuals, families, small groups) and macro (organizations, communities) practice in an agency setting. (Field fee: $300.)

Rules & Requirements
Requisites: Prerequisite, SOWO 520.
Grading Status: Letter grade.

SOWO 522. Pre-Specialization Practicum for Advanced Standing Students. 4 Credits.
Introduces advanced standing students to specialization competencies and behaviors by demonstrating knowledge, skills, and values in direct (individuals, families, small groups) or macro (organizations, communities) practice in an agency setting. (Field fee: $300.)

Rules & Requirements
Grading Status: Letter grade.

SOWO 523. Generalist Practicum Seminar I. 1 Credits.
Assist students in integrating and applying classroom learning with the generalist practicum. Opportunities are provided for self-reflection, case presentation, discussion of social work values and ethics in practice, and peer consultation in alignment with standards of our professional accrediting body.

Rules & Requirements
Grading Status: Letter grade.

SOWO 524. Generalist Practicum Seminar II. 1 Credits.
Assist students in integrating and applying classroom learning with the generalist practicum. Opportunities are provided for self-reflection, case presentation, discussion of social work values and ethics in practice, and peer consultation in alignment with standards of our professional accrediting body.

Rules & Requirements
Grading Status: Letter grade.

SOWO 530. Social Welfare Systems and Policies. 3 Credits.
Explores the US social welfare system and its implications for social work practice. Social welfare policies are analyzed, yielding implications for advocacy and action.

Rules & Requirements
Grading Status: Letter grade.

SOWO 540. Social Work Practice with Families, Individuals, and Groups. 3 Credits.
Provides the foundation for social work practice with individuals, families, and groups. It emphasizes basic knowledge, analytic and practice skills, and values necessary for practice.

Rules & Requirements
Grading Status: Letter grade.

SOWO 570. Social Work Practice with Organizations and Communities. 3 Credits.
This course focuses on developing knowledge and skills in engagement, assessment, and intervention design and implementation within the context of communities, organizations, and broader systems.

Rules & Requirements
Grading Status: Letter grade.

SOWO 610. Introductory Spanish for Health Professionals. 3 Credits.
This course is intended for students who know no Spanish or so little that they feel the need to start over. Students with more than two semesters of college Spanish are not eligible. The course covers the curriculum of first-semester Spanish taught within a health context, with a focus on speaking.

Rules & Requirements
Grading Status: Letter grade.
Same as: PUBH 610, NURS 610.

SOWO 613I. Intermediate Spanish for Health Care I. 3 Credits.
This intermediate course is the equivalent of the third semester of college Spanish. Students will hone their listening and speaking skills in class primarily through role-playing activities and class discussion. Activities center on an original film set in a health clinic in rural North Carolina.

Rules & Requirements
Grading Status: Letter grade.
Same as: PUBH 613, HSCI 613I, NURS 613I.

SOWO 615I. Advanced Spanish for Health Care I. 3 Credits.
Required preparation, third semester Spanish or equivalent. This advanced course reviews the grammar of the third and fourth semester of college Spanish. Students hone their listening and speaking skills through role-playing activities and class discussion. Activities center on an original film set in a Latino-run health clinic.

Rules & Requirements
Grading Status: Letter grade.
Same as: PUBH 615, HSCI 615I, NURS 615I.

Graduate-level Courses

SOWO 700. Treatment Foundation for Problematic Substance Use and Process Addictions. 3 Credits.
Introduces students to the field of problematic substance use and process addiction. Explores historic and current theories of addiction, the key domains of addiction counseling, and applicable ethical and legal considerations.

Rules & Requirements
Grading Status: Letter grade.

SOWO 702. Human Development in Context. 1.5 Credits.
This course provides an overview of human development in an environmental context, surveying major theoretical frameworks and highlighting the impact of different systems on the development, functioning and health of individuals, families and communities. Course frameworks will include definitions, structural variations, theories, strengths, stressors, and changes that affect functioning needed to carry out practice with clients.

Rules & Requirements
Grading Status: Letter grade.

SOWO 705. Mental Health Recovery and Psychiatric Rehabilitation. 1.5 Credits.
The concept of mental health recovery is introduced, exploring theoretical foundations and lived experiences of consumers. Psychiatric rehabilitation is discussed as a framework and set of interventions supporting recovery.

Rules & Requirements
Requisites: Prerequisites, SOWO 500 and 505.
Grading Status: Letter grade.

SOWO 709. Special Topics in Human Behavior and Social Environment. 1-6 Credits.
Permission of the Instructor. Topic determined by instructor and announced in advance.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

SOWO 712. Foundations for Evidence-based Practice and Program Evaluation. 1.5 Credits.
Students will develop knowledge of evidence-based practice, including skills needed to identify, acquire and assess appropriate interventions for practice and basic skills required to evaluate their own social work practice.

Rules & Requirements
Grading Status: Letter grade.

SOWO 719. Special Topics in Research. 1-6 Credits.
Permission of the instructor. Topic determined by instructor and announced in advance.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

SOWO 720. Individualized Field Practicum. 1-6 Credits.
(Field fee: $300.)

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

SOWO 730. Social Work and the Law. 3 Credits.
Course provides familiarity with legal processes, legal research, and legal analysis within the context of socio-legal issues important to social work practice.

Rules & Requirements
Grading Status: Letter grade.

SOWO 732. Advanced Standing Bridge Course: Social Welfare Policy & Institutional Oppression. 1.5 Credits.
This course addresses foundational understandings of social welfare policies and the institutional oppression of marginalized groups, focusing on core theoretical frameworks and policy analysis skills.

Rules & Requirements
Grading Status: Letter grade.

SOWO 739. Special Topics in Policy. 1-6 Credits.
Permission of the instructor. Topic determined by instructor and announced in advance.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

SOWO 740. Implementing Evidence-Informed Practice w/ Individuals, Families Groups. 3 Credits.
Using a multi-cultural lens, this course introduces students to core evidence-based interventions common to most theoretical approaches. Focus is on building effective direct practice skills applicable across settings and populations.

Rules & Requirements
Requisites: Prerequisite, SOWO 540.
Grading Status: Letter grade.

SOWO 741. Integrated Behavioral Health Care with Underserved Populations. 1.5 Credits.
This course teaches practical skills for behavioral health care delivered in primary care settings. In this course you will develop expertise in providing brief interventions as part of an interprofessional care team.

Rules & Requirements
Grading Status: Letter grade.

SOWO 742. The Satir Growth Model: Enhancing Individual, Couple, Family and Organizational Health. 1.5 Credits.
This practice course will apply Satir Growth Model interventions to help students facilitate the healthy functioning of individuals, couples, families, and organizations.

Rules & Requirements
Grading Status: Letter grade.

SOWO 743. SW at the Interface of the MH & Criminal Justice Systems: Practice, Policy, and Research. 1.5 Credits.
This course explores social work practice, policy, and research for justice-involved people with mental health and/or substance use disorders.

Rules & Requirements
Grading Status: Letter grade.

SOWO 744. Community Organizing. 1.5 Credits.
In this course, students will learn and apply the universal skills of community change and broad-based community organizing. Students will learn and practice the skills needed to effectively organize communities.

Rules & Requirements
Grading Status: Letter grade.

SOWO 745. Facilitation Skills Within the Organizational and Community Context. 1.5 Credits.
Building from group relations theory, this course develops facilitation skills (e.g., agenda setting, process checking, participatory planning, navigating conflict) to engage culturally diverse task group members to achieve identified objectives.

Rules & Requirements
Grading Status: Letter grade.

SOWO 750. Cognitive Behavioral Therapy. 1.5 Credits.
This course will use the cognitive behavioral therapy CBT framework to teach students how to move from an assessment to intervention using the CBT model.

Rules & Requirements
Requisites: Prerequisite, SOWO 540.
Grading Status: Letter grade.

SOWO 751. Behavioral Intervention with Children. 1.5 Credits.
This course teaches basic principles of behavior theory and intervention, current applications, and how to assess, design and implement behavior plans for children.

Rules & Requirements
Requisites: Prerequisite, SOWO 540.
Grading Status: Letter grade.

SOWO 753. Interpersonal Psychotherapy. 1.5 Credits.
This practice course focuses on interpersonal psychotherapy, an empirically supported intervention for depression in adolescents and adults. Adaptations for other mental health disorders are discussed.

Rules & Requirements
Requisites: Prerequisite, SOWO 540.
Grading Status: Letter grade.

SOWO 758. Differential Diagnosis of Mental Health Disorders. 1.5 Credits.
This course focuses on the process of conducting a differential diagnosis of mental health and substance use disorders using the current Diagnostic and Statistical Manual of Mental Disorders.

Rules & Requirements
Requisites: Prerequisites, SOWO 540.
Grading Status: Letter grade.

SOWO 760. Clinical Practice with Addictive Disorders. 3 Credits.
Students develop knowledge, skills, and attitudes specific to clinical practice with clients experiencing Addictive Disorders. This will include effective interventions in a variety of clinical settings utilizing evidence-based and evolving best-practice methodologies.

Rules & Requirements
Requisites: Pre- or corequisites, SOWO 540 and 700; permission of the instructor for students lacking the requisites.
Grading Status: Letter grade.

SOWO 761. Practice with Diverse Populations Affected by Addiction. 3 Credits.
This advanced practice course provides an overview of the unique problems and needs of diverse populations living with addictive disorders and focuses on the application of culturally sensitive intervention strategies.

Rules & Requirements
Requisites: Pre- or corequisites, SOWO 540 and 700; permission of the instructor for students lacking the requisites.
Grading Status: Letter grade.

SOWO 764. Motivational Interviewing for the Treatment of Addictive and Mental Health Disorders. 1.5 Credits.
This course presents the theoretical basis of motivational interviewing (MI), the principles of this counseling approach, and the key strategies for facilitating effective discussions about behavior change with a particular focus on addictive disorders.

Rules & Requirements
Requisites: Prerequisite, SOWO 540.
Grading Status: Letter grade.

SOWO 765. Social Work Practice with Groups. 1.5 Credits.
The course is designed to enable students to become more knowledgeable and skillful as direct practice group workers.

Rules & Requirements
Requisites: Pre- or corequisite, SOWO 540.
Grading Status: Letter grade.

SOWO 766. Dialectical Behavioral Therapy: Theory and Practice. 1.5 Credits.
This course provides an introduction to Dialectical Behavior Therapy (DBT), exploring both its theoretical underpinnings as well as its practical application.

Rules & Requirements
Requisites: Prerequisite, SOWO 540.
Grading Status: Letter grade.

SOWO 767. Differential Diagnosis and Case Formulation. 3 Credits.
This course prepares students to take psychiatric histories, conduct mental status examinations, engage in differential diagnosis decision-making using the DSM-5, write mental health reports, and begin case formulation for treatment planning.

Rules & Requirements
Grading Status: Letter grade.

SOWO 769. Special Topics in Direct Practice. 1-6 Credits.
Permission of the instructor. Topic determined by instructor and announced in advance.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

SOWO 770. Implementing Evidence-Informed Practice with Organizations and Communities. 3 Credits.
This course provides an introduction to evidence-informed and best practices for program management. Focus is on building effective organizational and community practice skills in implementing new programs and interventions.

Rules & Requirements
Requisites: Prerequisite, SOWO 570.
Grading Status: Letter grade.

SOWO 772. Integrative Bridge Course: Practice Overview. 1.5 Credits.
Course is a brief overview of direct and macro practice social work. First half will focus on fundamentals of direct practice with individuals, families and groups and review assessment, diagnosis, treatment planning and intervention selection. Second half will review the fundamentals of macro social work practice. Including exposure to methods that groups, organizations and communities utilize to assess communities and address needs of individuals and families, and the impact of interagency functioning on service delivery.

Rules & Requirements
Grading Status: Letter grade.

SOWO 790. Population Health: Interprofessional Management in a Changing Healthcare System. 3 Credits.
This interprofessional education course focuses on preparing healthcare professionals with the foundational skills needed to work in teams to effectively collaborate and coordinate care in population health. Admission to the School of Nursing graduate program or graduate students in any of the Health Affairs Schools with permission of instructor required.

Rules & Requirements
Grading Status: Letter grade.
Same as: NURS 790I.

SOWO 792. Program Development and Proposal Preparation. 1.5 Credits.
In this skills-oriented course, students will learn to apply three approaches to program development and prepare a proposal draft suitable for submission to a foundation or governmental organization.

Rules & Requirements
Requisites: Prerequisite, SOWO 570.
Grading Status: Letter grade.

SOWO 793. Asset Development Practice. 1.5 Credits.
This course explores community-based efforts and social policies to help lower-income individuals and families build wealth through increased access to financial services and asset-building opportunities.

Rules & Requirements
Requisites: Prerequisite, SOWO 570.
Grading Status: Letter grade.

SOWO 799. Special Topics in Macro Practice. 1-6 Credits.
Permission of the instructor. Topic determined by instructor and announced in advance.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

SOWO 810. Evaluation of Social Work Interventions. 3 Credits.
Students apply knowledge of research methods and evidence-based practice to evaluation of social work interventions, by developing and conducting a detailed evaluation of specific social work intervention.

Rules & Requirements
Requisites: Prerequisite, completed Generalist Curriculum.
Grading Status: Letter grade.

SOWO 820. Social Work Specialization Practicum I. 6 Credits.
Students learn specialization competencies and behaviors by demonstrating advanced knowledge, skills and values through direct (individuals, families, small groups) OR macro (organizations, communities) practice in an agency setting. (Field fee: $300.)

Rules & Requirements
Requisites: Prerequisite, Completed Generalist Curriculum.
Grading Status: Letter grade.

SOWO 821. Social Work Specialization Practicum II. 6 Credits.
A continuation of SOWO 820, students demonstrate mastery of specialization competencies and behaviors through direct (individuals, families, small groups) or macro (organizations, communities) practice in an agency setting. (Field fee: $300.)

Rules & Requirements
Requisites: Prerequisites, Completed Generalist Curriculum.
Grading Status: Letter grade.

SOWO 822. Online MSW Program Specialization Practicum I. 4 Credits.
Online MSW Students learn specialization competencies and behaviors by demonstrating advanced knowledge, skills and values through direct (individuals, families, small groups) or macro (organizations, communities) practice in an agency setting. (Field Fee: $300)

Rules & Requirements
Grading Status: Letter grade.

SOWO 823. Online MSW Program Specialization Practicum II. 4 Credits.
A continuation of SOWO 822, students demonstrate an increased knowledge of specialization competencies and behaviors by demonstrating advanced knowledge, skills, and values through direct or macro practice in an agency. (Field Fee: $300.)

Rules & Requirements
Requisites: Prerequisite, SOWO 822.
Grading Status: Letter grade.

SOWO 824. Online MSW Program Specialization Practicum III. 4 Credits.
A continuation of SOWO 823, students demonstrate mastery of specialization competencies and behaviors through direct or macro practice in an agency setting. (Field Fee: $300.)

Rules & Requirements
Requisites: Prerequisites, SOWO 822 and SOWO 823.
Grading Status: Letter grade.

SOWO 831. Addiction and Public Policy: Implications for Practice. 1.5 Credits.
The course will examine alcohol and drug policies, particularly as they relate to the exacerbation and resolution of health and social inequities for those with substance use disorders.

Rules & Requirements
Requisites: Prerequisite, SOWO 530.
Grading Status: Letter grade.

SOWO 832. Child Welfare Policy Practice and Advocacy. 1.5 Credits.
This course engages students in the process of child welfare policy practice and advocacy to formulate, analyze, implement, evaluate, and disseminate evidence-informed policies and interventions at all system levels.

Rules & Requirements
Requisites: Prerequisite, SOWO 530.
Grading Status: Letter grade.

SOWO 833. Social Work and Policy Practice: Theory, Analysis and Advocacy. 3 Credits.
This policy practice course prepares students to become skilled in analyzing, formulating, implementing, and evaluating social welfare policies. The course equips students with the knowledge, values, and skills necessary to navigate the complex landscape of social welfare services and advocate for social change through policymaking.

Rules & Requirements
Requisites: Pre- or corequisite, Sowo 530.
Grading Status: Letter grade.

SOWO 834. Advanced Policy Practice. 1.5 Credits.
This class will explore decision-making and strategy models that will engage students in the development of practical knowledge and skills in the areas of policy analysis and advocacy.

Rules & Requirements
Requisites: Prerequisite, SOWO 530.
Grading Status: Letter grade.

SOWO 835. Poverty Policy. 1.5 Credits.
Course provides students with a framework for advanced policy analysis and strategies for policy change, focusing on national and state poverty policy, focusing on legal, socio-political, and economic factors influencing financing, access, service delivery. Course explores skills and strategies for policy analysis and change.

Rules & Requirements
Requisites: Prerequisite, SOWO 530.
Grading Status: Letter grade.

SOWO 836. Health Access and Health Disparities. 1.5 Credits.
Examines disparities in health outcomes as a function of access to and quality of care for persons disadvantages by income, ethnicity, sexual orientation and other factors. Critically evaluates health and social policies related to exacerbation and resolution of health inequalities.

Rules & Requirements
Requisites: Pre- or corequisite, SOWO 530.
Grading Status: Letter grade.

SOWO 837. Disability Policy. 1.5 Credits.
Using an advanced policy analysis framework, this course focuses on strategies for policy change, national and state policy, and legal and socio-political factors influencing financing, access, and service delivery.

Rules & Requirements
Requisites: Pre- or corequisite, SOWO 530.
Grading Status: Letter grade.

SOWO 840. Adult Mental Health: Theory and Practice. 3 Credits.
This course focuses on mental health social work practice with adults, covering assessment and several theoretically based interventions with an emphasis on gaining practice skills.

Rules & Requirements
Requisites: Prerequisites, SOWO 500, 505, and 540.
Grading Status: Letter grade.

SOWO 841. Child and Adolescent Mental Health: Theory and Practice. 3 Credits.
This course presents knowledge and practice theories to understand mental health and well-being in children, adolescents and their families. It emphasizes practice skills and theories relevant to assessment and evidenced-based interventions.

Rules & Requirements
Grading Status: Letter grade.

SOWO 842. Families: Theory and Practice. 3 Credits.
A review and synthesis of explanatory and practice theories for understanding and intervening with family systems.

Rules & Requirements
Requisites: Prerequisites, SOWO 500, 505, and 540.
Grading Status: Letter grade.

SOWO 843. Older Adults: Theory and Practice. 3 Credits.
This course fosters understanding of normal aging, illness, and common challenges associated with aging, and also practice skills to treat older adults and their families.

Rules & Requirements
Requisites: Prerequisites, SOWO 500, 505, and 540.
Grading Status: Letter grade.

SOWO 845. Health: Theory and Practice. 3 Credits.
This course focuses on social work practice in healthcare covering the social context of health problems, and the theories and interventions that facilitate prevention of and coping with health problems.

Rules & Requirements
Requisites: Prerequisites, SOWO 500, 505, and 540.
Grading Status: Letter grade.

SOWO 850. School Social Work Practice. 3 Credits.
This course examines public school social work policy and practice emphasizing an ecological approach within the school-family-community context.

Rules & Requirements
Requisites: Prerequisite, SOWO 540.
Grading Status: Letter grade.

SOWO 851. Core Components and Skills for Trauma-informed Practice. 3 Credits.
This course facilitates students' acquisition of the knowledge, skills, and attitudes necessary to effectively use 12 common trauma-informed practice elements in interventions for and the treatment of traumatized children and their families. The course highlights consideration of the impact of trauma, intervention objectives, and the practice elements needed to accomplish the intervention objectives. This course is taught using an inquiry-based learning (IBL) pedagogy to enhance students' engagement and learning using full-length cases that exemplify the diverse clients a clinician might encounter in practice.

Rules & Requirements
Requisites: Pre- or corequisite, SOWO 500, 505, 540.
Grading Status: Letter grade.

SOWO 853. Approaches to Brief Treatment. 3 Credits.
This advanced practice elective course covers theories and application of three models of brief psychotherapy. Skill building, critical thinking, and utilization of empirical support are emphasized.

Rules & Requirements
Requisites: Prerequisite, SOWO 540.
Grading Status: Letter grade.

SOWO 855. Treatment of Trauma and Violence. 3 Credits.
This course focuses on the assessment and treatment of trauma and the impact of violence within the biopsychosocial context. You will learn foundation skills for intervening in direct practice settings with diverse client populations.

Rules & Requirements
Requisites: Prerequisite, SOWO 540.
Grading Status: Letter grade.

SOWO 856. Care of the Dying and Bereaved. 3 Credits.
This interdisciplinary clinical course addresses issues and practice models relating to terminal illness and bereavement faced throughout the life span.

Rules & Requirements
Requisites: Prerequisite, SOWO 540.
Grading Status: Letter grade.

SOWO 860. Child Welfare Perspectives and Practices. 3 Credits.
Focus on the knowledge, skills, and critical thinking necessary for effective practice in child welfare. Students examine their own perspectives regarding pertinent research, current events, and initiatives in the state.

Rules & Requirements
Grading Status: Letter grade.

SOWO 861. Cognitive Behavior Therapy and Dialectical Behavior Therapy: Essential Practices. 3 Credits.
This course offers an introductory exploration of Cognitive Behavioral Therapy (CBT) and Dialectical Behavior Therapy (DBT), delving into their theoretical foundations and practical implementation within each model.

Rules & Requirements
Requisites: Pre- or corequisite, SOWO 540.
Grading Status: Letter grade.

SOWO 874. Administrative and Management: Theory and Practice. 3 Credits.
This course explores contemporary theories, models, and practices for managing human service organizations, emphasizing skills in human resources, leadership, fund management, program implementation, partnerships, equity, organizational change, stakeholder engagement and cultural humility.

Rules & Requirements
Requisites: Prerequisites, SOWO 500, 505, and 570.
Grading Status: Letter grade.

SOWO 875. Interorganizational and Community-Level Theory and Practice. 3 Credits.
This course focuses on social planning, intervention design, and implementation within a complex inter-organizational environment. Theoretical frameworks and historical, sociopolitical and economic contexts of human service delivery systems are discussed.

Rules & Requirements
Requisites: Prerequisites, SOWO 500, 505, and 570.
Grading Status: Letter grade.

SOWO 880. Sustainable Development. 3 Credits.
Examines perspectives and models of sustainable development. Students will analyze a project and present a participatory plan for engaging in sustainable development work.

Rules & Requirements
Requisites: Prerequisite, SOWO 570.
Grading Status: Letter grade.

SOWO 881. Development Theory and Practice in Global Settings. 3 Credits.
This course is designed to assist students to learn skills, methods, theory, and research in development practice in global settings. Focus is on competent practice with marginalized populations globally.

Rules & Requirements
Grading Status: Letter grade.

SOWO 883. Marketing and Fundraising for Nonprofit Organizations. 3 Credits.
This course helps students to develop skills and practices associated with marketing and fundraising strategies for nonprofit organizations at the macro level.

Rules & Requirements
Requisites: Prerequisite, SOWO 570.
Grading Status: Letter grade.

SOWO 884. Leadership in Nonprofit Organizations. 3 Credits.
An in-depth analysis of the executive role in nonprofit organizations, particularly in leadership transitions, strategic planning, board development, policy administration, governance, employee relations, and resource planning and acquisition.

Rules & Requirements
Requisites: Prerequisite, SOWO 570.
Grading Status: Letter grade.

SOWO 885. Financial Management of Nonprofit Organizations. 3 Credits.
Provides basic financial skills for leaders of nonprofits, including bookkeeping fundamentals, interpreting financial statements, budgeting, cash management and investment, and legal compliance.

Rules & Requirements
Requisites: Prerequisites, SOWO 517 and 570.
Grading Status: Letter grade.
Same as: PUBA 757.

SOWO 887. Program Design and Proposal Development and Pre-implementation Planning. 3 Credits.
Students will learn to develop proposals to fund programs and interventions that address an organizational or social problem or condition and build skills in problem theory, program theory, proposal development, and pre-implementation assessment and planning.

Rules & Requirements
Requisites: Pre- or corequisite, SOWO 540.
Grading Status: Letter grade.

SOWO 900. Conceptualizing Social Problems to Inform Interventions. 3 Credits.
An application and critical analysis of behavioral and social science theories and theory- driven research for understanding the etiology of social problems for purposes of social intervention.

Rules & Requirements
Grading Status: Letter grade.

SOWO 910. Research Methods in Social Intervention. 3 Credits.
An introduction to the basic principles of research for planning and evaluating social interventions. Topics include problem formulation, design, measurement, analysis, and the application of findings to theory and practice.

Rules & Requirements
Requisites: Prerequisite, SOWO 510.
Grading Status: Letter grade.

SOWO 911. Introduction to Social Statistics and Data Analysis. 3 Credits.
Designed to explore basic principles and to provide advanced instruction in data analysis, including the construction and analysis of tables, statistical tests, and an introduction to the use of computer programs.

Rules & Requirements
Requisites: Prerequisite, SOWO 510.
Grading Status: Letter grade.

SOWO 912. Research Practicum I. 3 Credits.
Students develop independent research competence through work on a research project under the direction of an experienced researcher.

Rules & Requirements
Requisites: Prerequisite, SOWO 911.
Grading Status: Letter grade.

SOWO 913. Advanced Research Methods in Social Intervention. 3 Credits.
Students build advanced competence in research design, data collection, data analysis, and statistics by analyzing exemplary social work research and presenting independent learning projects within specialized areas of study.

Rules & Requirements
Requisites: Prerequisites, SOWO 900 and 940.
Grading Status: Letter grade.

SOWO 914. Measurement in Intervention Research. 3 Credits.
This course focuses on the development of knowledge and skills in measuring social, psychological, environmental, and other factors related to intervention with individuals, families, groups, and organizations.

Rules & Requirements
Requisites: Prerequisites, SOWO 910 and 911.
Grading Status: Letter grade.

SOWO 915. Research Practicum II. 1-6 Credits.
Continuation of Research Practicum I.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

SOWO 916. Structural Equation Modeling. 3 Credits.
SEM is a general statistical method that can be employed to test theoretically derived models. In this course, students will learn fundamental concepts and skills to conduct SEM, and how to apply these techniques to social work and related areas of research.

Rules & Requirements
Grading Status: Letter grade.

SOWO 917. Longitudinal and Multilevel Analysis. 3 Credits.
This course introduces the context and intuition for longitudinal and multilevel models, and the statistical frameworks, analytical tools, and social behavioral applications of multilevel modeling (MLM) and longitudinal analysis.

Rules & Requirements
Grading Status: Letter grade.

SOWO 918. Applied Regression Analysis and Generalized Linear Models. 3 Credits.
Permission of the instructor. This course introduces statistical frameworks, analytical tools, and social behavioral applications of OLS regression model, weighted least-square regression, logistic regression models, and generalized linear models.

Rules & Requirements
Grading Status: Letter grade.

SOWO 919. Special Topics in Doctoral Research. 1-6 Credits.
Permission of the instructor. Topic determined by instructor and announced in advance.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

SOWO 920. Special Topics in Social Work Doctoral Studies. 1-6 Credits.
Permission of the instructor. Topic determined by the instructor and announced in advance.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

SOWO 921. Qualitative Analysis. 3 Credits.
This course will introduce the application of qualitative research methods for social work research.

Rules & Requirements
Grading Status: Letter grade.

SOWO 922. Causal Inference for Social Work Research. 3 Credits.
This course focuses on topics and methods for causal inference in social work research.

Rules & Requirements
Grading Status: Letter grade.

SOWO 923. Systemic Reviews and Introduction to Meta-Analysis. 3 Credits.
This course focuses on conducing and writing systematic reviews in social work and related behavioral/social sciences, as well as an introduction to meta-analysis.

Rules & Requirements
Grading Status: Letter grade.

SOWO 924. Professional Development Seminar: Navigating Doctoral Studies and Beyond. 1.5 Credits.
This seminar-style course seeks to bolster the explicit and implicit curriculum of preparing social work scholars. The course focuses on preparing students for a successful doctoral education experience and individual development of their scholarly identities. The course will also introduce students to specialized knowledge and skills that will allow them to develop and implement a program of research in their future careers. This course is required for first year doctoral students in the School of Social Work. Other doctoral students are welcome to attend sessions of interest with permission from the instructor.

Rules & Requirements
Repeat Rules: May be repeated for credit. 3 total credits. 2 total completions.
Grading Status: Letter grade.

SOWO 940. Development of Social Intervention Models. 3 Credits.
This PhD-level course focuses on preparing advanced graduate students with the knowledge and skills needed to design and develop interventions that address social needs, problems, and conditions.

Rules & Requirements
Requisites: Prerequisite, SOWO 900.
Grading Status: Letter grade.

SOWO 941. Teaching Practicum. 3 Credits.
This practicum provides a range of supervised classroom or training opportunities designed to prepare advanced doctoral students for faculty positions in undergraduate- and graduate-level social work education.

Rules & Requirements
Grading Status: Letter grade.

SOWO 994. Doctoral Research and Dissertation. 3 Credits.
Dissertation work.

Rules & Requirements
Repeat Rules: May be repeated for credit.

Contact Information

School of Social Work
Visit Program Website (http://ssw.unc.edu)

Dean
Ramona Denby-Brinson
rdenby-brinson@unc.edu

DEPARTMENT OF SOCIOLOGY (GRAD)

The Department of Sociology offers the master of arts and doctor of philosophy degrees in sociology. Students receive training that equips them for careers in both teaching and research. All sociology students take basic coursework in sociological theory, research methods and statistics, and substantive areas. The program emphasizes balanced training and the integration of theory, method, and substantive knowledge. Detailed information on graduate degree procedures is available online at the department's website (http://sociology.unc.edu). For further information, including information about financial aid for students, contact the graduate student services manager (socssm@unc.edu).

The department's main concentrations of faculty research interest and graduate training are in demography and population, stratification and social inequality, political sociology, research methods and social statistics, and labor force and complex organizations.

Graduate students making adequate progress receive financial assistance during the first five years of the program. Sources of aid include teaching assistantships, research assistantships, and nonservice fellowships.

Department faculty work closely with the Carolina Population Center (https://www.cpc.unc.edu/), the Odum Institute for Research in Social Science (http://odum.unc.edu/), and other research centers and institutes on campus. The department also sponsors and edits Social Forces (https://academic.oup.com/sf/), one of the leading sociology journals in the world.

Professors

Kenneth A. Bollen, Comparative Political Structures, Statistics, International Development
Neal Caren, Social Movements/Collective Action
Barbara Entwisle, Social Demography, Methods, Community, Environment
Elizabeth Frankenberg, Demography, Health, Illness, Medical Sociology
Guang Guo, Biosocial Interactions, Social Statistics, Demography
Karen Guzzo, Fertility, Family Demography; Measurement
Taylor Hargrove, Sociology of Health, Racial/Ethnic, Gender, and Skin Tone Stratification, Aging and the Life Course
Robert Hummer, Demography, Population Health, Aging and the Life Course
Arne L. Kalleberg, Work, Organizations, Occupations, Social Stratification, Economic Sociology
Charles Kurzman, Political Sociology, Social Movements, International Development, Comparative and Historical, Social Theory, Islamic Studies
Ted Mouw, Social Stratification, Demography, Economic Sociology
Lisa D. Pearce, Family, Demography, Religion
Yang Claire Yang, Population, Sociology of Health and Medicine, Methods and Models, Stratification

Associate Professors

Yong Cai, Social Demography, Fertility, Sociology of Health, Chinese Society, Comparative Historical Sociology, Research Methodology
Scott Duxbury, Crime, Law and Deviance, Computational Social Science, Social Networks, Racism
Tania Jenkins, Medical Sociology, Health and Illness; Work, Occupations, Labor Markets; Stratification, Gender, Ethnography
Alexandrea Ravenelle, Work, Organizations and Occupations, Social Stratification, Economy and Society, Qualitative Research, Entrepreneurship
Jessica Su, Family, Children and Youth, Fertility, Stratification, Public Policy

Assistant Professors

Shannon Malone Gonzalez, Crime, Law and Deviance, Race and Ethnicity, Gender, Family
Rui Jie Peng
Kerilyn Schewel

Teaching Professors

Kathleen Fitzgerald, Race, Gender, Sexuality, Social Movements, Food Justice, and Pedagogy
Matthew Lammers

Research Professor

Kathleen M. Harris, Social Demography, Family and Child Well-Being, Poverty, Public Policy

Joint Appointments/Adjunct Faculty

Tressie McMillan Cottom, School of Information and Library Sciences
Thurston Domina, School of Education
Carmen Gutierrez, Public Policy
Gail Henderson, Social Medicine
James H. Johnson Jr., Kenan–Flagler Business School
John D. Kasarda, Kenan–Flagler Business School
Douglas Lauen, Public Policy
John D. Stephens, Political Science
Francesca Tripodi, School of Information and Library Sciences
Chris Wiesen, Odum Institute

Professors Emeriti

Howard E. Aldrich
Kenneth T. Andrews
Judith R. Blau
M. Richard Cramer
Glen H. Elder Jr
Jacqueline Hagan
Sherryl Kleinman
S. Philip Morgan
Anthony R. Oberschall
John Shelton Reed
Ronald R. Rindfuss
Peter R. Uhlenberg

SOCI

Advanced Undergraduate and Graduate-level Courses

SOCI 410. Formal Organizations and Bureaucracy. 3 Credits.
Varieties of organizational forms, their structures and processes; creation, persistence, transformation, and demise; role of organizations in contemporary society.

Rules & Requirements

IDEAs in Action Gen Ed: FC-POWER.
Grading Status: Letter grade.
Same as: MNGT 410.

SOCI 411. Social Movements. 3 Credits.
Examines the origins, dynamics, and consequences of protest and social movements including historical and contemporary movements from the United States and around the globe. Students may not receive credit for both SOCI 413 and 411.

Rules & Requirements
Grading Status: Letter grade.
Same as: PWAD 411.

SOCI 412. Social Stratification. 3 Credits.
Analysis of social structure and stratification in terms of class, status, prestige, and rank. Attention to social roles of elites, professionals, the middle class, and the working class and to comparative topics.

Rules & Requirements
Grading Status: Letter grade.
Same as: MNGT 412.

SOCI 414. The City and Urbanization. 3 Credits.
The city as a social, spatial, and political-economic phenomenon in the modern world. Analysis of urban demographic trends, spatial characteristics and economic functions. Substantive topics include segregation, social turmoil, unemployment, fiscal problems, suburbanization, and urban public policy. Students may not receive credit for both SOCI 414 and SOCI 417.

Rules & Requirements
Grading Status: Letter grade.

SOCI 415. Economy and Society. 3 Credits.
Examination of the structure and operation of institutions where economy and society intersect and interact, such as education, industrial organizations, on-the-job training, labor markets, and professional associations. Emphasis on the contemporary United States, with selected comparisons with Western Europe and Japan.

Rules & Requirements
Grading Status: Letter grade.
Same as: MNGT 415.

SOCI 418. Contemporary Chinese Society. 3 Credits.
Designed to help students read complex pictures of contemporary China and to understand how China's rise affected people's lives, both inside and outside of China, from a sociological perspective. The course does not assume any background in Chinese studies.

Rules & Requirements
Grading Status: Letter grade.

SOCI 419. Sociology of the Islamic World. 3 Credits.
Investigates issues such as tradition and social change, religious authority and contestation, and state building and opposition in Muslim societies in the Middle East and around the world.

Rules & Requirements

IDEAs in Action Gen Ed: FC-GLOBAL, RESEARCH.
Grading Status: Letter grade.

SOCI 420. Political Sociology. 3 Credits.
Analysis of the reciprocal influences of state and social organizations upon each other; the social bases of political authority and stability, of revolution and counterrevolution.

Rules & Requirements
Grading Status: Letter grade.

SOCI 421. Environmental Sociology. 3 Credits.
This course focuses on the interaction between humans and their natural environments. Students will investigate the causes and consequences of environmental problems and their connections to dominant economic and political structures, cultural values, population dynamics, resource consumption, technologies, and systems of inequality.

Rules & Requirements
Grading Status: Letter grade.

SOCI 422. Sociology of Mental Health and Illness. 3 Credits.
Examines the uniqueness of the sociological perspective in understanding mental health and illness. Draws upon various theoretical perspectives to best understand patterns, trends, and definitions of mental health and illness in social context. Focuses on how social factors influence definitions, perceptions, patterns, and trends of mental health and illness.

Rules & Requirements

IDEAs in Action Gen Ed: FC-POWER.
Grading Status: Letter grade.

SOCI 423. Sociology of Education, Experiential Education. 3 Credits.
An overview of theory and research on education and schooling, with an emphasis on inequalities in educational opportunities, education as a social institution, and the changing context of schools and schooling. Substantial field work for experiential education. Students may not receive credit for both SOCI 423 and SOCI 426.

Rules & Requirements

IDEAs in Action Gen Ed: HI-SERVICE.
Grading Status: Letter grade.

SOCI 424. Law and Society. 3 Credits.
A sociological analysis of comparative legal systems, the role of law in social change and in shaping social behavior. Topics may include the legal profession, property distribution, and the role of law in achieving racial and sexual justice.

Rules & Requirements
Grading Status: Letter grade.

SOCI 425. Family and Society, Junior/Senior Section. 3 Credits.
A special version of SOCI 130 for juniors, seniors, and beginning graduate students. Students may not receive credit for both SOCI 425 and SOCI 130.

Rules & Requirements
Grading Status: Letter grade.

SOCI 426. Sociology of Education. 3 Credits.
An overview of theory and research on education and schooling, with an emphasis on inequalities in educational opportunities, education as a social institution, and the changing context of schools and schooling. Students may not receive credit for both SOCI 423 and SOCI 426.

Rules & Requirements
Grading Status: Letter grade.

SOCI 427. The Labor Force. 3 Credits.
Supply and characteristics of labor and of jobs, including industrial and occupation changes, education and mobility of labor, and changing demography of the workforce.

Rules & Requirements

IDEAs in Action Gen Ed: FC-POWER.
Grading Status: Letter grade.
Same as: MNGT 427.

SOCI 429. Religion and Society. 3 Credits.
Sociological analysis of group beliefs and practices, both traditionally religious and secular, through which fundamental life experiences are given coherence and meaning. This course is a special version of SOCI 129 for juniors and seniors that explores the meanings and experiences of religion, as well as religion's role in communities, institutions, and societies through hands-on intensive research experience. Students may not receive credit for both SOCI 129 and SOCI/RELI 429.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.
Same as: RELI 429.

SOCI 430. Sociology of Food and Food Justice. 3 Credits.
We explore key sociological concepts through the lens of food: labor, power, social status, political economy, social inequalities, social movements, globalization, and social justice. Additionally, we examine the emergence of food related social movements, food policy, and food related social problems (famine, obesity, food deserts, food insecurity, GMOs (genetically modified organisms), CAFOs (concentrated animal feeding operations), industrial agriculture, environmental degradation, and poor health).

Rules & Requirements
Grading Status: Letter grade.

SOCI 431. Aging. 3 Credits.
The process of aging from birth to death, with a concentration on the later years of life, examined from a broad perspective. Topics include individual change over the life-course, the social context of aging, and the aging of American society.

Rules & Requirements
Grading Status: Letter grade.

SOCI 433. Immigration in Contemporary America. 3 Credits.
This course introduces students to reasons why people migrate, how citizens respond to that migration, how the federal government regulates migration, and how local communities manage the settlement of newcomers. By the end of the course students should have a solid understanding of major debates in the study of immigration.

Rules & Requirements
Grading Status: Letter grade.

SOCI 444. Race, Class, and Gender. 3 Credits.
Conceptualizations of gender, race, and class and how, separately and in combination, they are interpreted by the wider society. Emphasis on how black and working-class women make sense of their experiences at work and within the family.

Rules & Requirements
Grading Status: Letter grade.
Same as: WGST 444.

SOCI 445. Sociology of Emotions. 3 Credits.
The course examines how emotions are organized within social groupings and institutions. Differences in socialization by gender, ethnicity, social class, and age will be explored.

Rules & Requirements
Grading Status: Letter grade.

SOCI 460. Contemporary Social Theory. 3 Credits.
Analysis of current problems in general social theory; action and structure, justice and equity, social change and reproduction. Contrast and evaluation of leading approaches to solutions.

Rules & Requirements
Requisites: Prerequisite, SOCI 250.
Grading Status: Letter grade.

SOCI 468. United States Poverty and Public Policy. 3 Credits.
This course examines issues of poverty and social policy, single-mother families, the welfare debate, and homelessness.

Rules & Requirements
Grading Status: Letter grade.

SOCI 469. Health and Society. 3 Credits.
The primary objective of the course is to explain how and why particular social arrangements affect the types and distribution of diseases, as well as the types of health promotion and disease prevention practices that societies promote.

Rules & Requirements
Grading Status: Letter grade.

SOCI 691H. Senior Honors Research and Seminar. 3 Credits.
Permission of the department. SOCI 691H is required of senior honors candidates. Individual student research (under supervision of an advisor). Weekly seminar to discuss work on honors thesis, as well as special topics in sociology.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

SOCI 692H. Senior Honors Research and Seminar. 3 Credits.
Permission of the department. Individual student research under supervision of an advisor. Weekly seminar to discuss work on honors thesis as well as special topics in sociology.

Rules & Requirements

IDEAs in Action Gen Ed: RESEARCH.
Requisites: Prerequisite, SOCI 691H.
Grading Status: Letter grade.

SOCI 696. Undergraduate/Graduate Study in Sociology. 3-4 Credits.
Permission of the instructor. Graduate study in sociology for undergraduate students. Undergraduate students taking a 700- or 800-level course in sociology register via this course and complete all requirements for the associated graduate course.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

Graduate-level Courses

SOCI 700. History of Social Thought. 3 Credits.
Graduate standing in sociology or permission of the instructor. Historic social ideas of Western culture are considered against a background of general cultural analysis in terms of systematic theory. Required of all graduate degree candidates in sociology.

Rules & Requirements
Grading Status: Letter grade.

SOCI 707. Measurement and Data Collection. 3 Credits.
Provides an introduction to measurement theory and a review of various methods of data-gathering. Gaining experience with a variety of techniques of measurement and preparing a pretested research proposal are required for all students.

Rules & Requirements
Grading Status: Letter grade.

SOCI 708. Statistics for Sociologists. 4 Credits.
Provides an introduction to probability theory, descriptive statistics, inferential statistics, and the algebra of expectations. Emphasis is on elements useful to research sociologists, including bivariate regression and correlation.

Rules & Requirements
Grading Status: Letter grade.

SOCI 709. Linear Regression Models. 4 Credits.
The course presents regression analysis and related techniques. The major topics are the assumptions of the regression model, dummy variables and interaction terms, outlier diagnostics, multicollinearity, specification error, heteroscedasticity and autocorrelation. The final section introduces path analysis, recursive models, and nonrecursive systems.

Rules & Requirements
Grading Status: Letter grade.

SOCI 711. Analysis of Categorical Data. 3 Credits.
Permission of the instructor. Introduction to techniques and programs for analyzing categorical variables and nonlinear models. Special attention is given to decomposition of complex contingency tables, discriminant function analysis, Markov chains, and nonmetric multidimensional scaling.

Rules & Requirements
Grading Status: Letter grade.

SOCI 715. Seminar on Social Networks. 3 Credits.
Permission of the instructor. Theoretical and substantive issues in social network analysis. Focus is on models of social structure.

Rules & Requirements
Grading Status: Letter grade.

SOCI 717. Structural Equations with Latent Variables. 3 Credits.
This course examines models sometimes referred to as LISREL models. Topics include path analysis, confirmatory factor analysis, measurement error, model identification, nonrecursive models, and multiple indicators.

Rules & Requirements
Requisites: Prerequisite, SOCI 708; Permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

SOCI 718. Longitudinal and Multilevel Data Analysis. 3 Credits.
This course provides an introduction to event history analysis or survival analysis, random effects and fixed effects models for longitudinal data, multilevel models for linear and discrete multilevel data, and growth curve models.

Rules & Requirements
Requisites: Prerequisite, SOCI 709 or 711.
Grading Status: Letter grade.

SOCI 720. Participant Observation and In-Depth Interviewing. 3 Credits.
Students will learn the methods of participant observation and in-depth interviewing. Each student will collect data (provide detailed fieldnotes and transcriptions of interviews) in one group or setting for the duration of the course. Such topics as gaining access, ethics of research, and analysis of data will be covered.

Rules & Requirements
Grading Status: Letter grade.

SOCI 753. Experimental Design in Sociology. 3 Credits.
Permission of the instructor. Statistical aspects of experimental designs, with emphasis on applied problems involved in executing a statistically sound design.

Rules & Requirements
Grading Status: Letter grade.

SOCI 754. Survey Sampling. 3 Credits.
The different sampling techniques are discussed. Major emphasis on planning of large-scale sample surveys rather than on statistical theory.

Rules & Requirements
Grading Status: Letter grade.

SOCI 760. Data Collection Methods. 3 Credits.
Reviews alternative data collection techniques used in surveys, concentrating on the impact these techniques have on the quality of survey data. Topics covered include errors associated with nonresponse, interviewing, and data processing.

Rules & Requirements
Grading Status: Letter grade.
Same as: PLAN 730, POLI 860.

SOCI 761. Questionnaire Design. 3 Credits.
Examines the stages of questionnaire design including developmental interviewing, question writing, question evaluation, pretesting, questionnaire ordering, and formatting. Reviews the literature on questionnaire construction. Provides hands-on experience in developing questionnaires.

Rules & Requirements
Grading Status: Letter grade.
Same as: PLAN 731, POLI 861.

SOCI 762. Case Studies in Surveys. 3 Credits.
A number of external speakers from government and industry will describe various problems they encounter in surveys. Students will be challenged to develop proposals for addressing the problems, citing the literature as appropriate.

Rules & Requirements
Grading Status: Letter grade.

SOCI 763. Survey Computing. 1 Credits.
Introduces basic statistical concepts and practices emphasizing the analysis of real data. Provides training in the use of the SAS statistical analysis system and the practical problems of stratification, clustering, and weighting in survey analysis.

Rules & Requirements
Grading Status: Letter grade.

SOCI 800. Current Issues in Social Theory. 3 Credits.
An examination of selected recent work of general significance in sociology. Themes vary.

Rules & Requirements
Grading Status: Letter grade.

SOCI 801. Evolutionary Theory. 3 Credits.
Introduction to the new evolutionary theory and associated research.

Rules & Requirements
Grading Status: Letter grade.

SOCI 802. Social Psychological Theory. 3 Credits.
Introduction to basic theoretical approaches in social psychology, including social learning, social exchange, symbolic interaction, cognitive consistency, and affect control.

Rules & Requirements
Grading Status: Letter grade.

SOCI 803. Human Ecology. 3 Credits.
Examination of how human populations adapt to their environments. Emphasis on linkages among population, organization, environment, and technology. Research applications of this approach to urban communities and organizations.

Rules & Requirements
Grading Status: Letter grade.

SOCI 804. Marx and Marxism. 2 Credits.
Brief exposition and evaluation of Marx's theory of human nature, societal change and evolution, class, the state, family, and other institutions. Summary of dependency theory and critical theory.

Rules & Requirements
Grading Status: Letter grade.

SOCI 806. Principles of Theorizing. 3 Credits.
This course in metatheory analyzes methods of theorizing. It examines the criteria for constructing and evaluating scientific theories developed by philosophers of science and applies them to social theorizing. The hypothetico-deductive model of theorizing is contrasted with other theoretical approaches.

Rules & Requirements
Grading Status: Letter grade.

SOCI 807. Major Sociological Theories. 0.5-21 Credits.
Examination of selected writing, concepts, and issues of a major sociological theory or theoretical approach.

Rules & Requirements
Grading Status: Letter grade.

SOCI 808. Macrosociological Theory. 3 Credits.
The objective of the course is to illustrate three aspects of macrosociological theory: 1) the conception of macrosociology, 2) the structural approach in sociology and 3) hypothetico-deductive theorizing. A hypothetico-deductive macrostructural theory developed by the instructor is analyzed, and extensive empirical tests of the theory are presented.

Rules & Requirements
Grading Status: Letter grade.

SOCI 810. Social Movements. 3 Credits.
The structure and dynamics of social movements and their societal environment, with special reference to sociopolitical movements of minority and low status groups in industrialized and third world societies.

Rules & Requirements
Grading Status: Letter grade.

SOCI 811. Seminar in Political Sociology. 3 Credits.
The relationships between social structure and political decisions. Regimes and social structure; bureaucracies, political associations, and professions; science and politics; closed and open politics; political movements and change.

Rules & Requirements
Grading Status: Letter grade.
Same as: POLI 811.

SOCI 812. Civil Society. 1-3 Credits.
Under the conditions of globalization, civil society takes on new and different meanings. Course examines what the term means and how it is applied.

Rules & Requirements
Grading Status: Letter grade.

SOCI 813. Comparative Welfare States. 3 Credits.
This course examines the development, achievements, present crisis, and future of welfare states in advanced industrial democracies.

Rules & Requirements
Grading Status: Letter grade.
Same as: POLI 813.

SOCI 814. Comparative and Historical Analysis Exploration. 3 Credits.
Exploration and use of techniques for the comparative study of social processes and historical events. Special attention is devoted to methodologies that facilitate the collection, analysis, and interpretation of historical and/or comparative phenomena.

Rules & Requirements
Grading Status: Letter grade.

SOCI 816. Influential Works in Democracy. 3 Credits.
The course covers the major traditions of democratic theory from ancient Greece to the present, ethnographies on political organization, and 19th- and 20th-century observations on democracy.

Rules & Requirements
Grading Status: Letter grade.
Same as: POLI 816.

SOCI 818. Race and Ethnicity. 3 Credits.
This course reviews the historical and contemporary sociological literature on race and ethnicity. Students will gain an advanced state-of-the-art understanding of how racial and ethnic groups emerge and evolve, how these constructs shape societies, how they influence intergroup relations, and their role in identity formation.

Rules & Requirements
Repeat Rules: May be repeated for credit. 3 total credits. 1 total completions.
Grading Status: Letter grade.

SOCI 820. Seminar in Marriage and the Family. 3 Credits.
Introduces students to a wide range of studies in the sociology of family, to develop familiarity with the empirical, theoretical, and methodological foundations of family research in sociology. Examines demographic trends; marriage and family relationships; race/ethnicity; poverty and social class; work/family issues; childbearing and rearing; and mate selection.

Rules & Requirements
Grading Status: Letter grade.

SOCI 821. The Life Course. 3 Credits.
Provides an intense introduction to the life course as a theoretical orientation and methodology (logic of inquiry).

Rules & Requirements
Grading Status: Letter grade.

SOCI 822. Sociological Theories of Aging and the Adult Life Course. 3 Credits.
Overview and critical assessment of sociological theory applied to aging, including explicit theories of aging. The course examines the historical development of the field and considers the nature of theory development.

Rules & Requirements
Grading Status: Letter grade.

SOCI 823. Integrating Social and Biological Perspectives on Human Health. 3 Credits.
Student will learn key theories and methodological approaches for how social processes, socio-spatial organization, and social inequality are associated with health patterns, changes, and disparities; theories/approaches for studying human health from a biological perspective; and strategies using integrated social and biological research perspectives and address advantages and challenges.

Rules & Requirements
Grading Status: Letter grade.
Same as: EPID 823.

SOCI 825. The Life Course and Aging: Theory and Methods in Social and Epidemiologic Research. 3 Credits.
This seminar surveys the major theoretical paradigms, methodological tools and empirical studies of aging and cohort analysis that are of enduring importance to the understanding of social change, epidemiologic trends, and related population and life course processes and dynamics. It aims to provide a sweeping review of the theoretical models in recent life course and aging research and introduce useful guidelines on how to conduct empirical analysis.

Rules & Requirements
Grading Status: Letter grade.

SOCI 826. Health and Developmental Trajectories From Adolescence into Adulthood. 3 Credits.
Graduate seminar that integrates theory and research on health and developmental trajectories across the early life course using the design and data from the National Longitudinal Study of Adolescent to Adult Health (Add Health). Within the social and epidemiology life course frameworks, this course facilitates student research using Add Health.

Rules & Requirements
Repeat Rules: May be repeated for credit. 3 total credits. 1 total completions.
Grading Status: Letter grade.

SOCI 830. Demography: Theory, Substance, Techniques, Part I. 3 Credits.
A basic introduction to the discipline of demography. Materials covered include population history, data sources, mortality and fertility trends, and differentials and techniques of analysis.

Rules & Requirements
Grading Status: Letter grade.

SOCI 831. Demography: Theory, Substance, Techniques, Part II. 3 Credits.
A continuation of SOCI 830. Materials covered include population growth and stable population theory, migration and distribution, population policy, and population estimates and projections.

Rules & Requirements
Grading Status: Letter grade.

SOCI 832. Migration and Population Distribution. 3 Credits.
Treats migration trends, patterns, and differentials and their effects on population distribution in continental and regional areas. Attention is given to theoretical and methodological problems in the study of population movement.

Rules & Requirements
Grading Status: Letter grade.

SOCI 833. Socioeconomic Factors in Fertility. 3 Credits.
Study of fertility differentials by social and economic factors, changes over time, the manner in which these factors affect fertility, and the implications thereof for fertility-control programs.

Rules & Requirements
Grading Status: Letter grade.

SOCI 835. Mortality: Social Demographic Perspectives. 3 Credits.
This advanced seminar covers mortality date and measurement, the inequality of death, trends in morbidity and mortality, and explanations of mortality decline. Social demographic perspectives receive primary emphasis.

Rules & Requirements
Requisites: Prerequisite, SOCI 830; Permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

SOCI 836. Social Gerontology. 3 Credits.
Permission of the instructor. The study of the aged in our society.

Rules & Requirements
Grading Status: Letter grade.

SOCI 840. Social Attitudes. 3 Credits.
Basic theories and methods in attitude research, with special attention to attitude dynamics and social relations.

Rules & Requirements
Grading Status: Letter grade.

SOCI 841. Social Structure and Personality. 3 Credits.
The generic processes by which individuals become members of a society, with emphasis on the influence of social structure on socialization and the patterning of personality.

Rules & Requirements
Grading Status: Letter grade.

SOCI 842. Seminar in Socialization and Group Process. 3 Credits.
Permission of the instructor. Analysis of theoretical issues and empirical research relevant to socialization. Special emphasis upon group process effects on the evolution of the social self, the "fit" between personality and role, and other issues.

Rules & Requirements
Grading Status: Letter grade.

SOCI 843. Seminar in Social Control and Deviance. 3 Credits.
Permission of the instructor. The relation of social norms to conforming and deviant behavior. Types of social and personal controls. Theoretical and research problems are reviewed.

Rules & Requirements
Grading Status: Letter grade.

SOCI 850. Social Stratification. 3 Credits.
Analysis of major theories of and approaches to the study of social inequality, with attention to how the various theories and approaches are operationalized. Focus on recent research in labor markets and worldwide inequality.

Rules & Requirements
Grading Status: Letter grade.

SOCI 851. Sociology of Gender. 3 Credits.
Reviews theory on variation in men's and women's gender roles, with emphasis on industrialized societies and women's roles.

Rules & Requirements
Grading Status: Letter grade.
Same as: WGST 851.

SOCI 852. Ethnicity, Race, and Education. 1-21 Credits.
Emerging new theory and research paradigms in the sociology of education are reviewed. The course covers the following: racial and ethnic variation, parenting, contextual variation, peer influence, and school variation.

Rules & Requirements
Grading Status: Letter grade.

SOCI 853. Justice and Inequality: Selected Topics. 1-21 Credits.
Requires permission of the instructor. Examination of selected issues regarding societal, economic, and political inequality and questions of justice in the United States and Western Europe.

Rules & Requirements
Grading Status: Letter grade.

SOCI 854. Seminar in Urban Sociology. 3 Credits.
Theory and research in the study of the location and growth of urban areas, the effect urban areas have upon behavior, and the study of social behavior in different urban subareas. Each member of the seminar completes a project interrelating theory and research.

Rules & Requirements
Grading Status: Letter grade.

SOCI 855. Poverty in America. 3 Credits.
This graduate seminar will study trends, causes, and consequences of poverty in America, covering the topics of single-mother families, child poverty, low-wage work, immigrant families, and welfare reform and social policy.

Rules & Requirements
Grading Status: Letter grade.

SOCI 859. Black Feminist Theory. 3 Credits.
Black Feminist Theory centers praxis, justice, and liberation in the production of knowledge. This graduate level course engages writings in black feminist theory to critically interrogate social inequality at the intersections of racism, capitalism, and heteropatriarchy. In this course, we will focus on the histories of these systems in a global context and how black feminist theory challenges traditional modes of knowledge production and hegemonic claims that reproduce these structures. Specifically, we will explore themes of epistemic violence, colonialism and racial capitalism, social movements, reproductive justice, and carcerality from diverse black feminist perspectives in sociology and beyond.

Rules & Requirements
Grading Status: Letter grade.

SOCI 860. Sociology of Organizations. 3 Credits.
Permission of the instructor. Structural features of organizations. Behavior in organizations. Organizational career patterns. Comparative analysis of structure, behavior, and careers in different types of organizations. Interorganization and organization-environment relations.

Rules & Requirements
Grading Status: Letter grade.

SOCI 861. Occupations and Work. 3 Credits.
The changing occupational system. Structural types of labor markets. Occupational organization, role sets, power relations, careers, and satisfaction in different types of labor markets and occupations.

Rules & Requirements
Grading Status: Letter grade.

SOCI 862. Health Organizations and Occupations. 3 Credits.
Considers various treatment settings, socialization and job performance of health workers, patienthood, the relation between organizational structure and effectiveness, and professional self-regulation.

Rules & Requirements
Grading Status: Letter grade.

SOCI 863. Sociology of Health, Illness, and Healing. 3 Credits.
This seminar provides a broad introduction to the sociology of health and illness. Classic and contemporary perspectives, as well as empirical evidence, are covered. Questions such as, "how (and why) are health and illness socially constructed and socially distributed?" and "what can be done to address these phenomena?" are examined.

Rules & Requirements
Grading Status: Letter grade.

SOCI 870. Sociology of Culture. 3 Credits.
Focuses on substantive and theoretical issues in this field and their intellectual origins. Topics include organizations, art, religion, science, class, and politics. Quantitative and qualitative approaches are examined.

Rules & Requirements
Grading Status: Letter grade.

SOCI 871. Sociology of Religion. 3 Credits.
An introductory, graduate-level survey of the sociology of religion as a field of study, reviewing literature on important theoretical approaches and key problems and issues in the field.

Rules & Requirements
Grading Status: Letter grade.

SOCI 872. The Sociology of Science: Science as a Social and Cultural Activity. 3 Credits.
This course examines the production of scientific knowledge. The focus is on the processes by which scientific knowledge and technological artifacts are constructed through cultural practices and the organizational of scientific work.

Rules & Requirements
Grading Status: Letter grade.

SOCI 901. Field Research. 3 Credits.
Permission of the instructor.

Rules & Requirements
Grading Status: Letter grade.

SOCI 905. Survey Practicum. 1 Credits.
Applied workshop in sample survey design and implementation. The student works in a data collection center under the guidance of the instructor. Course focuses on real world problems in data collection and their practical, cost-effective solutions.

Rules & Requirements
Grading Status: Letter grade.

SOCI 950. Seminar in Selected Topics. 1-6 Credits.
Permission of the instructor. The course description for a particular semester is available in the departmental office.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

SOCI 960. Training Program Seminars. 1 Credits.
Continuing seminars in selected topics.

Rules & Requirements
Grading Status: Letter grade.

SOCI 961. Reading and Research. 1-6 Credits.
Permission of the instructor.

Rules & Requirements
Grading Status: Letter grade.

SOCI 962. Advanced Reading. 3 Credits.
Library research or field research on a selected topic under guidance of the instructor.

Rules & Requirements
Grading Status: Letter grade.

SOCI 970. Reading and Research in Methodology. 3 Credits.
Permission of the instructor. Special work on selected problems of research methodology.

Rules & Requirements
Grading Status: Letter grade.

SOCI 971. Reading and Research in Methodology. 3 Credits.
Permission of the instructor. Special work on selected problems of research methodology.

Rules & Requirements
Grading Status: Letter grade.

SOCI 979. Publishing in Sociology. 3 Credits.
Permission of the instructor. This seminar exposes students to a variety of issues related to journal publication in sociology, such as types of journals and collaboration, the experience of writing an article for submission to a journal, reviewing articles for journals, and responding to editorial decisions.

Rules & Requirements
Grading Status: Letter grade.

SOCI 980. Seminar on the Teaching of Sociology. 3 Credits.
Doctoral candidacy in sociology or permission of the instructor. Examines the teacher's role and the teaching process, planning a course and constructing syllabi, testing for teaching or grading, evaluating teacher performance and the needs of different student populations.

Rules & Requirements
Grading Status: Letter grade.

SOCI 981. Writing Academic Research for Sociology. 3 Credits.
Course material will cover how to write an introduction, literature review, methods section, results section, and discussion. It will also include overviews on the style of academic writing, citation practices, and how to think about situating a research paper within a body of scholarly literature. Readings will stem from published resources on academic writing. Assignments include submissions of student writing (e.g., drafts of a literature review) and peer review of other students' written work. The final course requirement is a defended MA thesis or a thesis draft with a scheduled defense.

Rules & Requirements
Requisites: Prerequisite, SOCI 700, 707, 708, and 709.
Grading Status: Letter grade.

SOCI 993. Master's Research and Thesis. 3 Credits.
Individual research in a selected field under the direction of a member of the department.

Rules & Requirements
Repeat Rules: May be repeated for credit.

SOCI 994. Doctoral Research and Dissertation. 3 Credits.
Individual research in a selected field under the direction of a member of the department.

Rules & Requirements
Repeat Rules: May be repeated for credit.

Contact Information

Department of Sociology
Visit Program Website (http://sociology.unc.edu)

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DIVISION OF SPEECH AND HEARING SCIENCES (GRAD)

The Division of Speech and Hearing Sciences in the School of Medicine's Department of Health Sciences provides academic and professional education for speech-language pathologists and audiologists. Programs of study are available at the master's level in speech-language pathology. Programs of study at the doctoral level are available in clinical audiology (Au.D.) and in research (Ph.D.). The study of speech and hearing requires knowledge in both normal and atypical speech, language, and hearing. The speech and hearing sciences curriculum provides a multifaceted learning environment, including classroom, laboratory, research, and clinical experiences. Three major tracks of study are possible within the curriculum: audiology, speech-language pathology, and speech and hearing sciences. There are three academic degree programs:

1. A master's degree (M.S.) for entry-level clinical practice of speech-language pathology
2. A professional doctorate in clinical audiology (Au.D.)
3. A Ph.D. in speech and hearing sciences for students with a background in speech-language pathology or audiology and related areas who desire a research degree

All of these programs are interdisciplinary in nature, involving clinical and research activities with other University departments and centers in addition to the Division of Speech and Hearing Sciences.

The entrance, academic, and residency requirements for the M.S. and Ph.D. degrees correspond to those of The Graduate School. Applicants to the Au.D. program follow the guidelines established by the School of Medicine for that degree program. Students enrolled in clinical degree programs (M.S. and Au.D.) are prepared to meet licensure and certification requirements necessary for the practice of speech-language pathology or audiology. Additional information describing the graduate programs in speech and hearing can be obtained on the division's website (https://www.med.unc.edu/healthsciences/sphs/).

Speech and Hearing Sciences, M.S.

Students can earn a master of science in speech and hearing sciences and meet all requirements for ASHA certification in speechlLanguage pathology. Students who are not interested in attaining ASHA certification as a speech-language pathologist may petition the program coordinator to complete a master of science in speech and hearing sciences without the clinical requirements. This option requires additional research experience. At the completion of the master's course of study, students are eligible to receive a Master of Science in Speech in Hearing Sciences and students in the clinical track may take the national examination for certification known as the Praxis Examination.

Course Requirements

Code	Title	Hours
Core Courses		**44**
SPHS 741	Neuroanatomy	3
SPHS 743	Pediatric Speech Disorders	4
SPHS 762	Language Impairments in School Age Children	3
SPHS 765	Augmentative and Alternative Communication	3
SPHS 771	Supervised Clincal Experience in Speech-Language Pathology I	1
SPHS 776	Ethical Practice Policies and Guidelines	1
SPHS 754	Dysphagia	3
SPHS 760	Neurologic Communication Disorders in Adults	3
SPHS 772	Supervised Clinical Experience in Speech-Language Pathology II	1
SPHS 777	Contemporary Professional Issues in Education	1
SPHS 773	Supervised Clinical Experience in Speech-Language Pathology III	1
SPHS 778	Culturally Responsive Practices in Speech-Language Pathology	2
SPHS 744	Motor Speech Disorders	4
SPHS 774	Supervised Clinical Experience in Speech-Language Pathology IV	1
SPHS 779	Professional Practice Issues in Speech-Language Pathology	2
SPHS 803	Audiologic Rehabilitation for Children (or other elective if you have Aural Hab credit from UG)	3
or SPHS 804	Audiologic Rehabilitation for Adults	
SPHS 775	Supervised Clinical Experience in Speech-Language Pathology V	2
Electives		
Students may chose from the list below.		16
Thesis/Substitute or Dissertation		
SPHS 701	Introduction to Research in Speech and Hearing [1]	3
SPHS 870	Directed Research Experience [1]	3
Minimum Hours		**60**

[1] With DGS approval, students in an alternative track may take SPHS 993.

Code	Title	Hours
Electives		
SPHS 748	Voice Disorders	3
SPHS 752	Seminar in Medical Speech Language Pathology	3
HSCI 862	Developmental Disabilities Across the Lifespan I: An Interdisciplinary Approach	2
NURS 790I	Population Health: Interprofessional Management in a Changing Healthcare System	3
PUBH 610	Introductory Spanish for Health Professionals	3
PUBH 613	Intermediate Spanish for Health Care I	3
PUBH 615	Advanced Spanish for Health Care I	3
SPHS 742	Aphasia	3
SPHS 804	Audiologic Rehabilitation for Adults	3
SPHS 806	Seminar in Early Intervention	3
SPHS 803	Audiologic Rehabilitation for Children	3
EDMX 762	Advanced Emergent and Early Literacy	3
EDMX 764	Families and Teams in Early Childhood Intervention: Interdisciplinary Perspectives	3
SPHS 792	Pediatric Dysphagia	3
SPHS 888	Autism and Other Developmental Disabilities in Children Who Are Deaf or Hard of Hearing I	1
SPHS 775	Supervised Clinical Experience in Speech-Language Pathology V	2
SPHS 834	Counseling and Communication Disorders	3

SPHS 745	Cognitive Communication Disorders Across the Lifespan	3
SPHS 751	Global Issues and Practices in Communication Disorders	3
SPHS 880	Autism Seminar	3
HSCI 864	Developmental Disabilities Across the Lifespan II: An Interdisciplinary Approach (LEND trainees only)	2
NURS 790I	Population Health: Interprofessional Management in a Changing Healthcare System	3
PUBH 610	Introductory Spanish for Health Professionals	3
PUBH 613	Intermediate Spanish for Health Care I	3
PUBH 615	Advanced Spanish for Health Care I	3
SPHS 889	Autism and Other Developmental Disabilities in Children Who Are Deaf or Hard of Hearing II	1

Milestones

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 27) for more information.

- Master's Committee
- Master's Written Exam/Approved Exam Substitute
- Thesis Substitute OR Approved Master's Thesis
- Residence Credit
- Master's Exit Survey

Speech and Hearing Sciences, Ph.D.

The Ph.D. program is designed to prepare future scholars who will provide leadership and contribute to the knowledge base in speech, language, and hearing sciences. The program offers direct training in research, teaching, technology, and service delivery.

Course Requirements

Code	Title	Hours
Core Courses		
HSCI 902	Philosophical Foundations: Assumptions Guiding Research Methodologies	1
HSCI 903	Qualitative Foundations: Understanding People and Practices	1
HSCI 904	Quantitative Foundations: Alternative Designs, Types of Knowledge, Generalization	2
HSCI 914	Academic and Scientific Writing	1
HSCI 909	Proposal and Grant Writing	3
EDUC 862	Teaching and Personnel Development	3
Electives		
Students may choose from the electives list below. Other courses may be taken with the permission of the DGS. [1]		31
Thesis/Substitute or Dissertation Course		
SPHS 994	Doctoral Research and Dissertation [2]	3
Minimum Hours		**48**

[1] Students with a background in SPHS must take a minimum of 31 credit hours. Students without a background in SPHS are required to take additional courses

[2] 6 or more credit hours required. Students must enroll in SPHS 994 for 3 credit hours each semester after their coursework is done.

Code	Title	Hours
Electives		
ANTH 898	Seminar in Selected Topics	
EDUC 710	Introductory Statistical Methods	
EDUC 762	Child Development and Disability	
EDUC 784	Intermediate Statistical Methods	
EDUC 785	Program Evaluation in Education	
EDUC 809	Problems in Special Education	
EDUC 829	Applied Measurement Theory for Education	
EDUC 830	Field Techniques in Educational Research	
EDUC 850	Change Leadership and Systems Improvement	
EDUC 861	Seminar in Special Education	
EDUC 868	Advanced Qualitative Analysis and Interpretation	
EDUC 878	Seminar in Educational Studies	
EDUC 888	Introduction to Structural Modeling	
EDUC 922	Mixed Methods Research	
EDUC 935	Multilevel Modeling	
INLS 613	Text Mining	
INLS 732	Children's Literature and Related Materials	
HSCI 905	Designing Mixed Methods Research in Allied Health Sciences	
HSCI 906	Single Subject Design and Methods I	
HSCI 910	Participatory Qualitative Methods: Advanced Application	
HSCI 917	Introduction to Biobehavioral Methods in Health Sciences	
NURS 710	Developmental Physiology and Pathophysiology	
NURS 932	Families and Health	
NURS 963	Writing for Publication	
NURS 968	Writing the Pre-/Post-Doctoral Training Plan for a Research Intensive Career	
OCSC 890	Seminar on Special Topics in Occupational Science	
PSYC 830	Statistical Methods in Psychology I	
PSYC 847	Advanced Topics in Quantitative Psychology: Measurement	
SOWO 917	Longitudinal and Multilevel Analysis	

Milestones

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 27) for more information.

- Doctoral Committee
- Doctoral Oral Comprehensive Exam
- Doctoral Written Exam
- Prospectus Oral Exam
- Advanced to Candidacy
- Dissertation Defense
- Doctoral Dissertation Approved/Format Accepted

- Residence Credit
- Doctoral Exit Survey

Following the faculty member's name is a section number that students should use when registering for independent studies, reading, research, and thesis and dissertation courses with that particular professor.

Professors

Karen Erickson (045), Assessment of Reading and Writing, Literacy Instruction
John Grose (050), Psychoacoustics, Auditory Evoked Potentials
Katarina L. Haley (072), Speech Perception and Production, Neurogenic Communication Disorders
Stephanie Sjoblad (082), Aural Rehabilitation, Hearing Aids and Assistive Devices

Associate Professors

Lisa Domby (025), Phonology, Bilingual Learning
Adam Jacks (091), Aphasia, Neurogenic Communication Disorders, Speech Science
Patricia Johnson (076), Hearing Aids and Assistive Devices
Nancy McKenna (062), Genetics, Hearing Disorders
Hannah Siburt (096), Hearing Assistive Devices, Audiologic Rehabilitation
Jessica Steinbrenner (093), Autism Research
Devon Weist, Audiologic and Vestibular Diagnostics, Counseling, Ethical Practice, Clinical Education

Assistant Professors

Molly Beiting, Pediatric Speech Disorders
Amanda Davis, Cochlear Implants
Julia Drouin, Auditory Perception, Cochlear Implants
Penelope Hatch (090), Literacy, Augmentative and Alternative Communication
Hannah Hodson McLean, Pediatric audiology, Educational Audiology
Kimberly Jenkins, Dual Language Learners, Early Intervention
Sallie Nowell, Autism Research, Pediatric Feeding
Carolyn Novaleski, Voice Disorders, Laryngeal Physiology
Katie Roberts, Vestibular, Adult Diagnostics and Treatment in Audiology
Jamelle Salomon, Clinical Education, Ethical Practice, Autism Research
Caitlyn Whitson, Audiologic Diagnostics, Aural Rehabilitation

Adjunct Associate Professors

Margaret Dillon (092), Adult Cochlear Implants

Adjunct Assistant Professors

Erika Gagnon, Pediatric Audiology, Cochlear Implants
Clare Harrop, Neurodevelopmental Disorders

Adjunct Instructors

Tahisha Bishop, School-Age Speech-Language Pathology, Educational Settings
Kristen Brackett, Pediatric Dysphagia
Danielle Doyle, Pediatric Audiology
Hannah Eskridge, Pediatric Aural Rehabilitation
Brian Kanapkey, Dysphagia, Neurogenic Speech Disorders
Andrea Overton, Audiology, Cochlear Implants and Diagnostics
Kristen Scherrer, Neuroanatomy
Elizabeth Stamm, Medical Speech-Language Pathology
Kelsey Thompson, Pediatric Feeding
Lindsey Van Looy, Audiologic Diagnostics, Adult Cochlear Implants, Tinnitus
Molly Widney, Pediatric Audiology

Professors Emeriti

Elizabeth R. Crais, Communication Disorders in Infants, Identification/Intervention with Young Children with Autism
Melody Harrison, Early Speech, Language, and Auditory Development in Children with Hearing Loss
Lee McLean, Early Intervention and Language Development in Children
Jackson Roush, Pediatric Audiology, Newborn Hearing Screening
Linda R. Watson, Language Disorders in Young Children, Autism, Emerging Literacy
Sharon W. Williams, Gerontology, Communication Disorders of Older Adults, Multicultural Issues, Counseling
David Yoder, Center for Literacy and Disability Studies

SPHS

Advanced Undergraduate and Graduate-level Courses

SPHS 400. Autism in Our Communities: An Interdisciplinary Perspective. 3 Credits.
Students have 30 hours of service-learning with individuals with autism at community partner sites. Class discussions introduce students to diverse topics related to autism spectrum disorder. This is an APPLES course.

Rules & Requirements
IDEAs in Action Gen Ed: HI-SERVICE.
Grading Status: Letter grade.
Same as: EDUC 400.

SPHS 401. American Sign Language I. 3 Credits.
This American Sign Language (ASL) course includes topics on linguistic features, cultural protocols, and core vocabulary for students to function in basic ASL conversations on a variety of topics. All instructions and discussions in the classroom will be conducted in ASL. Students minoring in Speech and Hearing Sciences have priority in registering.

Rules & Requirements
Grading Status: Letter grade.

SPHS 402. American Sign Language II. 3 Credits.
Students in the Speech and Hearing Minor have priority in registering. The American Sign Language (ASL) course focuses on developing conversational skills on a variety of topics. All instructions and discussions in the classroom will be conducted in ASL.

Rules & Requirements
Requisites: Prerequisite, SPHS 401.
Grading Status: Letter grade.

SPHS 510. Introduction to Communication Disorders. 3 Credits.
Introductory overview of communication disorders, including the nature of communication across the lifespan; cultural and linguistic issues that impact communication; communication modalities; speech disorders; language disorders; hearing disorders; swallowing disorders.

Rules & Requirements
Grading Status: Letter grade.

SPHS 520. Human Communication Across the Lifespan. 3 Credits.
Development of human communication processes across the lifespan, including linguistic and cultural bases of communication.

Rules & Requirements
Grading Status: Letter grade.

SPHS 521. Human Communication Across the Lifespan (EE). 4 Credits.
Development of human communication processes across the lifespan, including linguistic and cultural bases of communication. Includes a minimum of 30 service hours related to human communication. 12 spaces reserved for Juniors in Speech and Hearing Sciences Minor.

Rules & Requirements
Grading Status: Letter grade.

SPHS 530. Introduction to Phonetics. 3 Credits.
A detailed study of the International Phonetic Alphabet with emphasis on the sound system of American English. Application of phonetics to problems of pronunciation and articulation. Includes broad and narrow phonetic transcription.

Rules & Requirements
Grading Status: Letter grade.

SPHS 540. Speech Science. 3 Credits.
Introduction to the science of speech, including production, acoustics, and perception.

Rules & Requirements
Grading Status: Letter grade.

SPHS 570. Anatomy and Physiology of the Speech, Language, and Hearing Mechanisms. 3 Credits.
Anatomy and physiology of the speech producing and aural mechanisms.

Rules & Requirements
Grading Status: Letter grade.

SPHS 582. Introductory Audiology I. 3 Credits.
Theory and practice of the measurement of hearing, causative factors in hearing loss, evaluation of audiometric results, and demonstration of clinical procedures.

Rules & Requirements
Grading Status: Letter grade.

SPHS 583. Introduction to Clinical Practice in Speech-Language Pathology and Audiology. 3 Credits.
Introduction to diagnosis and treatment of communication disorders, including articulation, fluency, voice, and language, and those resulting from autism and hearing loss.

Rules & Requirements
Grading Status: Letter grade.

Graduate-level Courses

SPHS 701. Introduction to Research in Speech and Hearing. 3 Credits.
Required preparation, statistics course. Experimental and descriptive research designs in speech and hearing sciences, including both group and single subject.

Rules & Requirements
Grading Status: Letter grade.

SPHS 705. CL PRACT OBS/AUDIO. 1-15 Credits.
Rules & Requirements
Grading Status: Letter grade.

SPHS 706. Clinical Practicum in Audiology. 1-15 Credits.
Supervised clinical experience in Audiology which covers the breadth of the scope of practice. This course is taken multiple semesters throughout the AuD program.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

SPHS 707. COMM ASSESS PRESCHLRS. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.

SPHS 708. Cochlear Implants: Foundations & Clinical Applications. 4 Credits.
Examines fundamentals of cochlear implants, candidacy, evaluation, equipment, programming, and performance outcomes.

Rules & Requirements
Requisites: Prerequisites, SPHS 715 and 811.
Grading Status: Letter grade.

SPHS 710. Audiologic Assessment. 3 Credits.
Clinical Audiology assessment including pure-tone audiometry, immittance measures, and other measures commonly employed in the standard diagnostic battery.

Rules & Requirements
Requisites: Prerequisite, SPHS 582 or equivalent.
Grading Status: Letter grade.

SPHS 710L. Audiologic Assessment Lab. 1 Credits.
Laboratory exercises in threshold determination, clinical masking and speech recognition testing, all concepts introduced in SPHS 710, Audiologic Assessment.

Rules & Requirements
Grading Status: Letter grade.

SPHS 712. Characteristics of Amplification Systems. 3 Credits.
Amplification options for the hearing-impaired; specifically, hearing aid, electroacoustics, and earmold technologies. Additionally, hearing aid selection procedures are presented.

Rules & Requirements
Grading Status: Letter grade.

SPHS 712L. Characteristics of Amplification Lab. 1 Credits.
Laboratory activities related to earmolds, hearing aids, and ANSI electroacoustic verification.

Rules & Requirements
Grading Status: Letter grade.

SPHS 715. Anatomy and Physiology of Hearing. 3 Credits.
This course will cover anatomy and physiology of the peripheral hearing system (outer, middle, and inner ear) as well as relevant central pathways.

Rules & Requirements
Grading Status: Letter grade.

SPHS 717. Professional Considerations in Speech and Hearing. 3 Credits.
To provide the student with information about current issues facing professionals. Issues include changing delivery systems, leadership, treatment efficacy and quality, reimbursement, and ethics.

Rules & Requirements
Grading Status: Letter grade.

SPHS 722. Auditory Perception. 3 Credits.
This course provides an overview of psychoacoustics - the psychology of hearing. Content includes introductory acoustics, normal sound perception, and the perceptual consequences of impaired hearing.

Rules & Requirements
Grading Status: Letter grade.

SPHS 725. Hearing Disorders. 3 Credits.
Diseases and disorders of the auditory system and their management.

Rules & Requirements
Requisites: Prerequisite, SPHS 582.
Grading Status: Letter grade.

SPHS 726. Clinical Issues and Experiences in Audiology. 1 Credits.
Online course in Year One, In-Person Course Years Two and Three, this course covers universal precautions, privacy regulations, report writing, clinical practice with diverse cultural groups, ethical considerations, coding and billing, and other aspects of audiology practice.

Rules & Requirements
Grading Status: Letter grade.

SPHS 730. Instrumentation and Calibration. 1 Credits.
Principles of instrumentation relevant to clinical practice including study of electronics, filters, and analog and digital processing.

Rules & Requirements
Grading Status: Letter grade.

SPHS 733. Auditory Strategies for Spoken Language in Deaf Children. 1 Credits.
Instruction and application of a variety of topics demonstrating the use of auditory techniques, and strategies to promote the use of spoken language in children with hearing loss.

Rules & Requirements
Grading Status: Letter grade.

SPHS 740. Principles of Prevention, Assessment, and Intervention in Speech-Pathology. 3 Credits.
Principles and methods of prevention, assessment, and intervention for people with communication and swallowing disorders, including consideration of anatomical/physiological, psychological, developmental, and linguistic and cultural correlates of the disorders.

Rules & Requirements
Grading Status: Letter grade.

SPHS 741. Neuroanatomy. 3 Credits.
A survey of neurological anatomy in relation to clinical speech-pathology and audiology. Topics include organization of the CNS, neuroanatomy, neurophysiology, and neurochemistry.

Rules & Requirements
Requisites: Prerequisite, SPHS 570.
Grading Status: Letter grade.

SPHS 742. Aphasia. 3 Credits.
Discussion of adult aphasia and its clinical management, including assessment, diagnosis, prognosis, counseling, and treatment. Combined lectures and laboratories.

Rules & Requirements
Requisites: Prerequisite, SPHS 570.
Grading Status: Letter grade.

SPHS 743. Pediatric Speech Disorders. 4 Credits.
Identification and differential diagnosis of delayed and disordered speech development; associated body structures and functions; intervention approaches focused on improving speech intelligibility, fluency, and participation in communication activities.

Rules & Requirements
Requisites: Prerequisite, SPHS 530; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

SPHS 744. Motor Speech Disorders. 4 Credits.
Assessment and treatment of adults with disorders of motor speech control (i.e. dysarthria, anarthria, fluency, and apraxia of speech).

Rules & Requirements
Requisites: Prerequisites, SPHS 540 and 570.
Grading Status: Letter grade.

SPHS 745. Cognitive Communication Disorders Across the Lifespan. 3 Credits.
An advanced course on cognitive bases of human communication and cognitive-communication disorders. Topics covered include theoretical models of cognitive communication across the lifespan, cognitive processes thought to underlie communication, and common clinical presentations of cognitive communication disorders associated with traumatic brain injury, right hemisphere injury, left hemisphere stroke and dementia. The goal of this course is to improve students abilities to apply theoretical models of communication and current research literature to assessment and practice. Restricted to: Speech-Language Pathology Graduate students in the MS-SLP program.

Rules & Requirements
Requisites: Prerequisite, SPHS 741.
Grading Status: Letter grade.

SPHS 748. Voice Disorders. 3 Credits.
Assessment and management of a range of laryngeal and aerodigestive disorders across the lifespan. Students admitted to the Master of Science in Speech and Hearing Sciences/Speech-language pathology program only.

Rules & Requirements
Grading Status: Letter grade.

SPHS 749. Evaluation and Clinical Management of Persons with Oral-Facial Anomalies. 3 Credits.
In-depth analysis of the embryologic and physiologic bases of oral-facial anomalies and the team approach to assessment and habilitation. Particular emphasis placed upon the following specialties: genetics, plastic surgery, prosthodontics, orthodontics, otolaryngology, and speech-language pathology.

Rules & Requirements
Requisites: Prerequisites, SPHS 540 and 570.
Grading Status: Letter grade.

SPHS 751. Global Issues and Practices in Communication Disorders. 3 Credits.
Examination and discussion of issues related to international practices in communication sciences and disorders, including effective global engagement. Restricted to: MS/SLP Graduate students and advanced undergraduates in the Minor with permission of instructor.

Rules & Requirements
Grading Status: Letter grade.

SPHS 752. Seminar in Medical Speech Language Pathology. 3 Credits.
Discussion of normal aging and language. Assessment and treatment of cognitive and linguistic problems in persons with dementing conditions, right hemisphere dysfunction, and traumatic brain injury.

Rules & Requirements
Grading Status: Letter grade.

SPHS 754. Dysphagia. 3 Credits.
Discussion of the development of the normal swallow, anatomy and physiology of the swallowing mechanism, and assessment and team management of swallowing disorders.

Rules & Requirements
Grading Status: Letter grade.

SPHS 760. Neurologic Communication Disorders in Adults. 3 Credits.
Overview of communication disorders commonly seen in adult populations. These include disorders of language, cognition, speech and motor control, voice, and fluency.

Rules & Requirements
Grading Status: Letter grade.

SPHS 761. Child Communication Disorders. 3 Credits.
Disorders of child speech and language development, as a prerequisite for advanced specialized coursework and supervised clinical practicum.

Rules & Requirements
Grading Status: Letter grade.

SPHS 762. Language Impairments in School Age Children. 3 Credits.
Assessment and intervention methods for receptive and expressive language (phonology, morphology, syntax, semantics, pragmatics, prelinguistic communication, and paralinguistic communication) in speaking, listening, reading, and writing.

Rules & Requirements
Grading Status: Letter grade.

SPHS 765. Augmentative and Alternative Communication. 3 Credits.
Introduction to Augmentative and Alternative Communication (AAC) systems for individuals with complex communication impairments; processes involved in selecting, representing, and organizing vocabulary; strategies to support development of communicative competence in AAC.

Rules & Requirements
Grading Status: Letter grade.

SPHS 771. Supervised Clincal Experience in Speech-Language Pathology I. 1 Credits.
Supervised clinical experience in Speech-Language Pathology scope of practice.

Rules & Requirements
Grading Status: Letter grade.

SPHS 772. Supervised Clinical Experience in Speech-Language Pathology II. 1 Credits.
Supervised clinical experience in Speech-Language Pathology scope of practice.

Rules & Requirements
Grading Status: Letter grade.

SPHS 773. Supervised Clinical Experience in Speech-Language Pathology III. 1 Credits.
Supervised clinical experience in Speech-Language Pathology scope of practice.

Rules & Requirements
Grading Status: Letter grade.

SPHS 774. Supervised Clinical Experience in Speech-Language Pathology IV. 1 Credits.
Supervised clinical experience in Speech-Language Pathology scope of practice.

Rules & Requirements
Grading Status: Letter grade.

SPHS 775. Supervised Clinical Experience in Speech-Language Pathology V. 2 Credits.
Supervised clinical experience in Speech-Language Pathology scope of practice.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 3 total completions.
Grading Status: Letter grade.

SPHS 776. Ethical Practice Policies and Guidelines. 1 Credits.
Academic program accreditation standards; standards of ethical conduct; practice policies and guidelines; prevention of communication disorders; role of the speech-language pathologist.

Rules & Requirements
Grading Status: Letter grade.

SPHS 777. Contemporary Professional Issues in Education. 1 Credits.
Principles and rules of the current ASHA Code of Ethics; technical reports, diagnostic and treatment reports; treatment plans, and professional correspondence.

Rules & Requirements
Requisites: Prerequisite, SPHS 776.
Grading Status: Letter grade.

SPHS 778. Culturally Responsive Practices in Speech-Language Pathology. 2 Credits.
Cultural and linguistic diversity, its influence on human communication and the infusion of this knowledge into clinical practice, recognizing the needs, values, preferred mode of communication, and cultural/linguistic background of the client/patient, family, caregivers, and relevant others.

Rules & Requirements
Grading Status: Letter grade.

SPHS 779. Professional Practice Issues in Speech-Language Pathology. 2 Credits.
Cultural competence; conflict management; effective clinical and professional interaction with clients/patients and relevant others.

Rules & Requirements
Requisites: Prerequisites, SPHS 776, SPHS 777, SPHS 778.
Repeat Rules: May be repeated for credit. 6 total credits. 3 total completions.
Grading Status: Letter grade.

SPHS 792. Pediatric Dysphagia. 3 Credits.
This course will cover content on the specialty area of pediatric dysphagia assessment and intervention. The course will cover normal development of feeding skills, explore underlying etiologies of feeding disorders, current methods and philosophies of providing evaluation and intervention, existing and ongoing research in these areas, and special populations such as infants with craniofacial anomalies.

Rules & Requirements
Requisites: Prerequisite, SPHS 754.
Grading Status: Letter grade.

SPHS 802. Problems in Speech and Hearing Sciences. 1-3 Credits.
May be repeated for credit.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 6 total credits. 6 total completions.
Grading Status: Letter grade.

SPHS 803. Audiologic Rehabilitation for Children. 3 Credits.
Covers speech perception and the effects of hearing loss on perception and production of speech as background for understanding assessment and treatment, with an auditory-verbal emphasis. Pediatric assessment and amplification are reviewed.

Rules & Requirements
Grading Status: Letter grade.

SPHS 804. Audiologic Rehabilitation for Adults. 3 Credits.
Theoretical bases and history of audiologic rehabilitation of adults. Also, practical approaches to assessment and therapeutic intervention are presented. The roles of assistive technology and family-based counseling are included.

Rules & Requirements
Grading Status: Letter grade.

SPHS 805. Auditory Verbal Therapy. 2 Credits.
Rules & Requirements
Grading Status: Letter grade.

SPHS 806. Seminar in Early Intervention. 3 Credits.
Stages of communication development of children from birth to five years old; clinical issues related to the assessment tools and intervention and planning for children with disabilities and their families.

Rules & Requirements
Grading Status: Letter grade.

SPHS 808. Seminar in Audiologic Rehabilitation. 2 Credits.
Audiologic rehabilitation including counseling, visual speech perception, auditory training, special needs of older adults and psychosocial aspects of hearing loss will be addressed. Review of technology to enhance communication included.

Rules & Requirements
Requisites: Prerequisites, SPHS 712 and 813.
Grading Status: Letter grade.

SPHS 809. Introduction to Cochlear Implants. 1 Credits.
Introductory information regarding cochlear implant candidacy, an overview of implant components, the evaluation process, surgery, device programming, and initiation of post implantation therapy. Class meets three hours for five weeks.

Rules & Requirements
Grading Status: Letter grade.

SPHS 811. Pediatric Audiology. 3 Credits.
Clinical procedures used in the identification and management of hearing loss in young children.

Rules & Requirements
Grading Status: Letter grade.

SPHS 812. Pediatric Amplification and Assistive Listening Devices. 2 Credits.
This course covers prescriptive formulas, verification and fitting of hearing aids and FM systems, and suggested monitoring of progress when working with young children with hearing loss and their families.

Rules & Requirements
Requisites: Prerequisites, SPHS 712 and 811.
Grading Status: Letter grade.

SPHS 813. Fitting and Dispensing of Amplification Systems. 3 Credits.
Theoretical and practical approaches to fitting amplification systems and the procedures for dispensing amplification systems to the hearing-impaired.

Rules & Requirements
Requisites: Prerequisite, SPHS 712.
Grading Status: Letter grade.

SPHS 813L. Fitting and Dispensing of Amplification Lab. 1 Credits.
Laboratory experiences related to the selection, programming, and fitting of amplification devices to hearing impaired individuals.

Rules & Requirements
Requisites: Prerequisite, SPHS 712.
Grading Status: Letter grade.

SPHS 814. Auditory Evoked Potentials I. 3 Credits.
This course explores the field of auditory evoked responses. The primary focus is on responses from the auditory periphery including otoacoustic emissions (OAEs), electrocochleography (ECochG), and the auditory brainstem response (ABR).

Rules & Requirements
Requisites: Prerequisites, SPHS 710, 715, and 722.
Grading Status: Letter grade.

SPHS 814L. The Auditory Evoked Potentials I Lab. 1 Credits.
Elecrophysiologic laboratory exercises to accompany Auditory Evoked Potentials I course.

Rules & Requirements
Requisites: Prerequisites, SPHS 710, 715, and 722.
Grading Status: Letter grade.

SPHS 815. Auditory Evoked Potentials II. 3 Credits.
The primary focus of this course is to cover auditory evoked potentials (Auditory Steady State Responses [ASSR] and Cortical Auditory Evoked Potentials [CAEP]) in addition to the ABR.

Rules & Requirements
Requisites: Prerequisite, SPHS 814.
Grading Status: Letter grade.

SPHS 816. Occupational and Community Audiology. 2 Credits.
Military and industrial audiology and hearing conservation, including physiological and psychological factors.

Rules & Requirements
Requisites: Prerequisite, SPHS 582.
Grading Status: Letter grade.

SPHS 818. Balance Assessment and Rehabilitation. 3 Credits.
Principles of vestibular function and dysfunction, clinical assessment, and management.

Rules & Requirements
Requisites: Prerequisite, SPHS 710.
Grading Status: Letter grade.

SPHS 818L. Balance Assessment Lab. 1 Credits.
Laboratory exercises to accompany Balance Assessment course. To include case history, bedside examination, and objective measurements.

Rules & Requirements
Requisites: Prerequisite, SPHS 710.
Grading Status: Letter grade.

SPHS 819. Educational Audiology. 2 Credits.
Examines the provision of services to school-age children, with special focus on eligibility determination and assessment of central auditory perception.

Rules & Requirements
Requisites: Prerequisites, SPHS 710 and 871L.
Grading Status: Letter grade.

SPHS 823. Business Management and Professional Issues. 3 Credits.
Examine healthcare and business models that impact audiology practice. Personnel management, marketing, quality assurance, and service reimbursement for audiology practices will be covered.

Rules & Requirements
Grading Status: Letter grade.

SPHS 824. Audiology Grand Rounds. 1 Credits.
Examines clinical cases from the perspective of presenting symptoms, test results, and clinical outcomes.

Rules & Requirements
Grading Status: Letter grade.

SPHS 825. Embryology and Genetics of Hearing and Deafness. 2 Credits.
Genetics related to developing hearing and balance structures as well as syndromic and nonsyndromic hearing loss and deafness.

Rules & Requirements
Grading Status: Letter grade.

SPHS 827. Pharmacology & Tinnitus in Audiology Practice. 2 Credits.
Advanced audiology course that provides fundamental knowledge about pharmacological mechanisms and their impact on hearing and balance, as well as evaluation and management of patients with persistent tinnitus.

Rules & Requirements
Requisites: Prerequisite, SPHS 715 and SPHS 725.
Grading Status: Letter grade.

SPHS 830. Independent Study. 1-5 Credits.
This course gives enrolled graduate students in the curriculum an opportunity to pursue research supervised by one or more faculty members, culminating in a written document or special project.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

SPHS 831. Advanced Signal Processing. 1 Credits.
This course will provide information regarding advanced signal processing utilized in digital amplification and cochlear implants.

Rules & Requirements
Grading Status: Letter grade.

SPHS 832. Speech Acoustics. 2 Credits.
This course provides information on the fundamentals of speech production, including the acoustic characteristics of normal and disordered speech.

Rules & Requirements
Requisites: Prerequisite, SPHS 833.
Grading Status: Letter grade.

SPHS 833. Special Topics. 3 Credits.
This is the foundation course in a series related to providing services to children with hearing loss. Six units focus on working with families, speech acoustics, audiological interpretation, instrumentation, foundations of speech and language, and early literacy.

Rules & Requirements
Grading Status: Letter grade.

SPHS 834. Counseling and Communication Disorders. 3 Credits.
This course provides a broad overview of contemporary counseling issues in communication disorders. The impact of subject age, life course, and cultural background on interviewing and counseling is included.

Rules & Requirements
Grading Status: Letter grade.

SPHS 836. Audiology Interpretation and Hearing Technologies. 4 Credits.
This course focuses on behavioral and physiologic assessment of hearing in children and how these measures are used in aural habilitation. Fundamentals of hearing instrument technology including the selection and fitting of hearing aids and cochlear implants are addressed.

Rules & Requirements
Grading Status: Letter grade.

SPHS 840. Aging and Communication Disorders. 3 Credits.
This course focuses on medical, psychological, and social theories and aspects of aging as they relate to communication processes and disorders.

Rules & Requirements
Grading Status: Letter grade.

SPHS 841. Seminar in Speech-Language Pathology. 0.5-15 Credits.
Special topics and significant literature in the field of speech pathology.

Rules & Requirements
Grading Status: Letter grade.

SPHS 849. Fluency Disorders. 2 Credits.
Course participants will develop an understanding of evaluation and treatment of acquired and developmental fluency disorders in children and adults through lecture and hands-on practice.

Rules & Requirements
Grading Status: Letter grade.

SPHS 850. Language Disorders Encountered in Audiology. 3 Credits.
Students will learn about four areas of language disorders affecting children and adults (receptive and expressive language disorders, communication modalities, social aspects of communication, and cognitive aspects of communication) through readings, posted videos, and online quizzes. This is an asynchronous online course.

Rules & Requirements
Grading Status: Letter grade.

SPHS 851. Speech Disorders Encountered in Audiology. 3 Credits.
Students will learn about speech disorders (fluency, voice, articulation, and craniofacial anomalies) through readings, posted videos, and online quizzes. This is an online asynchronous course.

Rules & Requirements
Grading Status: Letter grade.

SPHS 852. Speech and Language Disorders Encountered in Audiology. 3 Credits.
Students will select two topics from speech disorders (fluency, voice, articulation, and craniofacial anomalies) and two topics from language disorders (receptive and expressive language disorders, communication modalities, social aspects of communication, and cognitive aspects of communication). This is an online asynchronous course with readings, videos, and quizzes.

Rules & Requirements
Grading Status: Letter grade.

SPHS 860. Seminar on Early Communication Disorders. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.

SPHS 861. Seminar in Language and Language Disorders. 1-3 Credits.
Special topics and significant literature in the field of language and language disorders. May be repeated for credit.

Rules & Requirements
Grading Status: Letter grade.

SPHS 863. Listening and Spoken Language Development and Intervention. 3 Credits.
The course focuses on typical development, impact of hearing loss on listening and spoken language acquisition, assessment, strategies/techniques, and intervention for children birth-5 years who are deaf/hard of hearing.

Rules & Requirements
Requisites: Prerequisites, SPHS 832 and 836.
Grading Status: Letter grade.

SPHS 864. Speech and Language Impairments of Children. 3 Credits.
Seminar course exploring categorical classifications of young children and the impact of these categories on assessment and intervention. Common topics include autism, visual impairments, fragile X syndrome, and Down syndrome.

Rules & Requirements
Grading Status: Letter grade.

SPHS 865. Doctoral Seminar in Grant Writing. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.

SPHS 870. Directed Research Experience. 3 Credits.
Individual work by a student (supervised by faculty) to explore an area of interest in a research paper or guided research experience.

Rules & Requirements
Grading Status: Letter grade.

SPHS 871. Teaching and Supervision. 1 Credits.
Course regarding teaching of skills and supervision of individuals conducting screening programs. Introduction to teaching and development of assessment tools provides a background for the teaching lab associated with this course.

Rules & Requirements
Grading Status: Letter grade.

SPHS 871L. Teaching and Supervision Lab. 1 Credits.
Experience developing and delivering training module, instructional module, and supervising new trainees.

Rules & Requirements
Grading Status: Letter grade.

SPHS 880. Autism Seminar. 3 Credits.
The purpose of this course is to develop a familiarity and understanding of topics related to Autism Spectrum Disorders (ASD). Issues related to characteristics, etiologies, theories, assessment, and intervention will be discussed.

Rules & Requirements
Grading Status: Letter grade.

SPHS 882. Seminar in Speech Science. 1-3 Credits.
Advanced special topics and current research in speech science. May be repeated for credit.

Rules & Requirements
Grading Status: Letter grade.

SPHS 888. Autism and Other Developmental Disabilities in Children Who Are Deaf or Hard of Hearing I. 1 Credits.
Students will acquire knowledge related to screening, diagnosis, and intervention for children who have autism and/or other developmental disabilities in addition to hearing loss.

Rules & Requirements
Grading Status: Letter grade.

SPHS 889. Autism and Other Developmental Disabilities in Children Who Are Deaf or Hard of Hearing II. 1 Credits.
Students and faculty will examine challenges and solutions related to screening, diagnosis, and intervention for children who have autism and/or other developmental disabilities in addition to hearing loss.

Rules & Requirements
Repeat Rules: May be repeated for credit. 2 total credits. 2 total completions.
Grading Status: Letter grade.

SPHS 896. North Carolina Service Learning Trip. 1 Credits.
Interdisciplinary learning experience focused on examining social determinants of health while performing service activities in collaboration with community partners.

Rules & Requirements
Repeat Rules: May be repeated for credit. 3 total credits. 3 total completions.
Grading Status: Letter grade.

SPHS 897. Autism Seminar. 3 Credits.
Participants develop knowledge of the major neuropsychological theories of autism and methodological issues in autism research through reading and discussion of literature; participate in developing and presenting autism research projects individually or in groups.

Rules & Requirements
Grading Status: Letter grade.

SPHS 898. Literacy. 3 Credits.
This course provides an overview of literacy development for children birth to eight years old. It will also address the impact of hearing loss on the development of literacy.

Rules & Requirements
Grading Status: Letter grade.

SPHS 900. Research Design. 3 Credits.
Doctoral seminar that introduces the student to principles of quantitative research methodology.

Rules & Requirements
Grading Status: Letter grade.

SPHS 901. Seminar in Single Subject and Survey Research. 3 Credits.
Doctoral student seminar that introduces the student to principles of single subject and survey research methodology.

Rules & Requirements
Grading Status: Letter grade.

SPHS 902. Research in the Context of the Evidence-Based Practice Movement in Early Intervention. 3 Credits.
Overview of the evidence-based practice (EBP) movement in early intervention (EI), definitions of EBP, systems for appraising evidence quality, examination of evidence base for current practices in EI.

Rules & Requirements
Grading Status: Letter grade.

SPHS 966I. CONS AND COLLABORA. 3 Credits.
Rules & Requirements
Grading Status: Letter grade.

SPHS 993. Master's Research and Thesis. 3 Credits.
Rules & Requirements
Repeat Rules: May be repeated for credit.

SPHS 994. Doctoral Research and Dissertation/AUD Project. 3 Credits.

Contact Information

Division of Speech and Hearing Sciences
Visit Program Website (https://www.med.unc.edu/healthsciences/sphs/)

DEPARTMENT OF STATISTICS AND OPERATIONS RESEARCH (GRAD)

The department offers the master of science (M.S.) in statistics, analytics, and data science (STANDS) and doctor of philosophy (Ph.D.) in statistics and operations research (STOR).

The M.S. program is intended for students who wish to pursue careers in data science and analytics or as a preparation for continuing on to further graduate studies in related areas. This program focuses on training students in advanced quantitative thinking due to the increasing demand for skills in data-driven decision making in the modern world. It is possible for motivated students to complete the requirements in three semesters, though the typical duration is four. For students graduating with an undergraduate STAN degree, there is also an option of five-year M.S.-STANDS program.

The Ph.D. degree in STOR is designed for students planning a career in teaching or research. The educational and research profile of the STOR Ph.D. program is focused on the core disciplines of statistics, optimization, probability, and stochastic modeling. These disciplines have driven, and continue to drive, progress in data science and machine learning, as well as business and medical analytics. The STOR Department is one of the few in the U.S. that brings together experts in each of these disciplines under one academic roof. STOR offers a rigorous but flexible interdisciplinary Ph.D. program within which students can benefit from the strength and diverse expertise of the department's core faculty, while also having the opportunity to interact with domain scientists and researchers working in other fields. STOR Ph.D. students complete foundational coursework in the four core disciplines before undertaking more specialized coursework and directed dissertation research. Dissertation research is completed under the supervision of one or more faculty advisers. Research topics may lie within a single core discipline, or may span several core disciplines. Many research topics involve interdisciplinary research, with active collaboration with faculty and students at UNC including Environmental Sciences, Biology, the Lineberger Comprehensive Cancer Center, Computer Science, Biostatistics, Economics, and the Carolina Center for Genome Sciences, as well as industry in the Research Triangle Park and across the U.S. The breadth and depth of the STOR Ph.D. program prepares graduates for a wide variety of careers, ranging from academia to industry, and from the public to the private sector. Recent graduates have taken jobs in mathematics, statistics, IE, OR departments, and high-tech, biotech companies, and government agencies, etc. The Ph.D. degree requires at least three (but usually five) years of full-time graduate study, predicated upon substantial undergraduate mathematical preparation. Research is a central component in the work of doctoral candidates. Research training consists of required core coursework as well as electives that are designed to bring students up to date in their research field and intensive one-on-one work with a faculty member on a specific dissertation topic. Doctoral students who want to pursue academic careers are provided with ample opportunities to teach introductory undergraduate courses, and they are given extensive training to develop their instructional skills. Doctoral students may also participate in paid internships with local industrial employers to gain experience in a business environment. Their professional skills are further enhanced by work on real-world projects with clients in the department's consulting courses. Several courses provide opportunities for students to give technical presentations and refine their communication skills.

Further information on the graduate degree programs can be obtained from the department's website (https://stor.unc.edu/).

Admissions and Financial Aid

Admission to the department is highly competitive, and preference is given to applicants who have solid technical preparation. Although the department welcomes promising students from all disciplines, entering students must have a substantial mathematical background and applicants must satisfy the entrance requirements of The Graduate School. A student admitted with a deficiency in any area must make up for it at the beginning of her or his graduate work. If the deficiency is not severe, this can be accomplished without interrupting the normal program.

Application form (http://gradschool.unc.edu/admissions/)

Students can indicate on this application form (http://gradschool.unc.edu/admissions/) whether they intend to pursue the M.S. degree program or a Ph.D.

Funding basics (https://gradschool.unc.edu/funding/basics/fundingbasics.html) including links for financial aid are provided by The Graduate School.

Most of our Ph.D. students receive some form of financial support, such as Graduate School fellowships, departmental assistantships, research assistantships, or internships. Departmental assistantships involve grading or teaching an undergraduate course. Some of our students are supported as research assistants by faculty. Our supported students receive a tuition and fee waiver, and health insurance for the duration of their studies.

Degree Requirements

M.S. Program

The M.S. degree requires 30 credit hours of coursework and the completion of a master's project. Students can choose from a variety of courses, including a limited number from outside the department. Upon approval of The Graduate School, at most six credit hours may be transferred from another accredited institution or from within UNC–Chapel Hill for courses taken before admission to the M.S. program.

Ph.D. Program

The Ph.D. degree requires at least 45 semester hours of graduate coursework and the successful completion of a doctoral dissertation. Detailed information about specific courses, elective courses and allowable courses outside of the STOR department as well as potential course plans based on interests of accepted students are provided on the graduate admissions section of the program's website (https://stor.unc.edu/phd/program/).

Statistics Courses for Students From Other Disciplines

A number of STOR courses in probability and statistics are of potential interest to students in other disciplines. At the advanced undergraduate/beginning graduate level, STOR 455 and STOR 556, provide an introduction to applied statistics, including regression, analysis of variance, and time series. STOR 435, STOR 535, and STOR 555 provide introductions to probability theory and mathematical statistics,

respectively, at a postcalculus level while courses like STOR 538 and STOR 572 describe applications of the discipline to fundamental areas such as sports analytics and healthcare analytics.

The three graduate course sequences–(STOR 664, STOR 665), (STOR 654, STOR 655), and (STOR 634, STOR 635)–provide comprehensive introductions to modern applied statistics, theoretical statistics, and probability theory, respectively, at a more mathematical level. In each case it is possible to take only the first course in the sequence. Concerning mathematical prerequisites, STOR 664 and STOR 665 require a background in linear algebra and matrix theory, while the remaining courses require a solid background in real analysis.

Following the faculty member's name is a section number that students should use when registering for independent studies, reading, research, and thesis and dissertation courses with that particular professor.

Professors

Nilay Argon, Stochastic Models, Manufacturing and Healthcare Applications, Discrete Event Simulation
Shankar Bhamidi, Probability, Random Networks, MCMC, Probabilistic Combinatorial Optimization
Amarjit Budhiraja, Probability, Stochastic Analysis, Large Deviations
Jan Hannig, Statistics, Fiducial Inference, Stochastic Processes
Vidyadhar G. Kulkarni, Stochastic Models of Queues, Healthcare Systems, Supply Chains, Telecommunication Systems, Warranties
Yufeng Liu, Carolina Center for Genome Sciences**,** Statistical Machine Learning, Data Mining, Bioinformatics, Experimental Designs
James Stephen Marron, (Amos Hawley Distinguished Professor), Object-Oriented Data Analysis, Visualization, Smoothing
Andrew Nobel, (Paul Ziff Distinguished Professor), Machine Learning, Data Mining, Computational Genomics
Marianna Olvera-Cravioto, Applied Probability, Random Graphs, Heavy-Tailed Large Deviations, Weighted Branching Processes, Stochastic Simulation
Gabor Pataki, Convex Programming, Integer Programming
Vladas Pipiras, Time Series and Spatial Modeling, Extreme Value Theory, Streaming and Sampling Algorithms
Richard L. Smith, (Mark L. Reed Distinguished Professor), Extreme Value Theory, Environmental Statistics, Spatial Statistics
Serhan Ziya, Stochastic Modeling, Healthcare Operations, Service Operations, Queueing Design and Control, Revenue Management

Associate Professors

Sayan Banerjee, Stochastic Analysis, Probabilistic Couplings, Interacting Particle Systems
Nicolas Fraiman, Random Structures, Combinatorial Statistics, Randomized Algorithms
Chuanshu Ji, Financial Econometrics, Computational Materials Science, Monte Carlo Methods
Quoc Tran-Dinh, Numerical Optimization, Theory and Algorithms for Convex Optimization and Nonconvex Continuous Optimization
Kai Zhang, Mathematical Statistics, High Dimensional Inference, Inference After Variable Selection, Large Deviation, Quantum Computing

Assistant Professors

Guanting Chen, Sequential Decision Making and Learning Algorithms, Simulation and Applied Probability, Optimization and Applications in Operations Management
Xiangying Huang, Interacting Particle Systems, Spatial Stochastic Models, Algorithms on Random Graphs, Dynamic Random Networks
Daniel Kessler, Statistical Analysis of Networks, Post-Selective Inference, High-Dimensional Statistics, Human Neuroimaging, Computational and Cognitive Neuroscience, High Performance Computing
Patrick Lopatto, Probability Theory and Applications, Causal Inference, Random Matrix Theory
Yao Li, Machine Learning, Deep Learning, Adversarial Examples, Recommender System
Mo Liu, Data-Driven Decision-Making, Statistical Learning and Active Learning for Operations Management
Ali Mohammad Nezhad, Optimization, Computational Complexity, Real Algebraic Geometry, and Applied Topology
Michael O'Neill, Continuous Nonlinear Optimization, Stochastic Optimization Algorithms, Machine Learning and Data Science Applications
Ben Seeger, Stochastic Analysis, Mean Field Games, Interacting Agent Models.
Zhengwu Zhang, Brain Connectomics, Medical Imaging, Machine Learning, Bayesian Statistics, Shape and Functional Data Analysis
Chudi Zhong, Interpretable Machine Learning, Human-Model Interaction

Teaching Associate Professor

Jeffrey McLean, Statistics

Teaching Assistant Professors

Oluremi Abayomi, Statistics, Data Science
Mario Giacomazzo, Statistics
William Lassiter, Operations Research

Joint Professors

Joseph Ibrahim, (Alumni Distinguished Professor of Biostatistics), Bayesian Methods, Missing Data, Cancer Research
Michael Kosorok, (Biostatistics), Biostatistics, Empirical Processes, Semiparametric Inference, Machine Learning, Personalized Medicine, Clinical Trials, Dynamic Treatment Regimes
Jayashankar Swaminathan, (Benjamin Cone Research Professor, Kenan–Flagler Business School), Supply Chain, Stochastic Models

Professors Emeriti

George S. Fishman
Douglas G. Kelly
J. Scott Provan
David S. Rubin
Gordon D. Simons
Shaler Stidham Jr.
Jon W. Tolle

STOR

Advanced Undergraduate and Graduate-level Courses

STOR 415. Introduction to Optimization. 3 Credits.
Linear, integer, nonlinear, and dynamic programming, classical optimization problems, network theory. Honors version available.

Rules & Requirements
Requisites: Prerequisites, MATH 347 and STOR 315, 215, COMP 283 or MATH 381.
Grading Status: Letter grade.

STOR 435. Introduction to Probability. 3 Credits.
Introduction to mathematical theory of probability covering random variables; moments; binomial, Poisson, normal and related distributions; generating functions; sums and sequences of random variables; and statistical applications. Students may not receive credit for both STOR 435 and STOR 535. Honors version available.

Rules & Requirements
Requisites: Prerequisites, MATH/STOR 235 or MATH 233; and STOR 215 or STOR 315 or MATH 381 or COMP 283.
Grading Status: Letter grade.
Same as: MATH 535.

STOR 445. Stochastic Modeling. 3 Credits.
Introduction to Markov chains, Poisson process, continuous-time Markov chains, renewal theory. Applications to queueing systems, inventory, and reliability, with emphasis on systems modeling, design, and control.

Rules & Requirements
Requisites: Prerequisite, BIOS 660, STOR 435 or 535.
Grading Status: Letter grade.

STOR 455. Methods of Data Analysis. 3 Credits.
Review of basic inference; two-sample comparisons; correlation; introduction to matrices; simple and multiple regression (including significance tests, diagnostics, variable selection); analysis of variance; use of statistical software. Honors version available.

Rules & Requirements
Requisites: Prerequisite, STOR 120, or 155.
Grading Status: Letter grade.

STOR 471. Long-Term Actuarial Models. 3 Credits.
Probability models for long-term insurance and pension systems that involve future contingent payments and failure-time random variables. Introduction to survival distributions and measures of interest and annuities-certain.

Rules & Requirements
Requisites: Prerequisite, STOR 435, or 535.
Grading Status: Letter grade.

STOR 472. Short Term Actuarial Models. 3 Credits.
Short term probability models for potential losses and their applications to both traditional insurance systems and conventional business decisions. Introduction to stochastic process models of solvency requirements.

Rules & Requirements
Requisites: Prerequisite, STOR 435, or 535.
Grading Status: Letter grade.

STOR 475. Healthcare Risk Analytics. 3 Credits.
This course will introduce students to the healthcare industry and provide hands-on experience with key actuarial and analytical concepts that apply across the actuarial field. Using real world situations, the course will focus on how mathematics and the principles of risk management are used to help insurance companies and employers make better decisions regarding employee benefit insurance products and programs.

Rules & Requirements
Requisites: Prerequisite, STOR 435, or 535.
Grading Status: Letter grade.

STOR 490. Special Topics. 3 Credits.
Examines selected topics from statistics and operations research. Course description is available from the department office.

Rules & Requirements
Repeat Rules: May be repeated for credit. 12 total credits. 4 total completions.
Grading Status: Letter grade.

STOR 493. Internship in Statistics and Operations Research. 3 Credits.
Requires permission of the department. Statistics and analytics majors only. An opportunity to obtain credit for an internship related to statistics, operations research, or actuarial science. Pass/Fail only. Does not count toward the statistics and analytics major or minor.

Rules & Requirements
IDEAs in Action Gen Ed: HI-INTERN.
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Pass/Fail.

STOR 496. Undergraduate Reading and Research in Statistics and Operations Research. 1-3 Credits.
Permission of the director of undergraduate studies. This course is intended mainly for students working on honors projects. May be repeated for credit.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 6 total credits. 6 total completions.
Grading Status: Letter grade.

STOR 512. Optimization for Machine Learning and Neural Networks. 3 Credits.
This is an upper-level course focusing on optimization aspects of common and practical problems and topics in statistical learning, machine learning, neural networks, and modern AI. It covers several topics such as optimization perspective of linear regression, nonlinear regression, matrix factorization, stochastic gradient descent, regularization techniques, neural networks, deep learning techniques, and minimax models.

Rules & Requirements
Requisites: Prerequisites, STOR 415 or STOR 612; or MATH 233 and MATH 347, or MATH 235, and COMP 110 or COMP 116; or permission of instructor.
Grading Status: Letter grade.

STOR 520. Statistical Computing for Data Science. 4 Credits.
This course provides hands-on experience working with data sets provided in class and downloaded from certain public websites. Lectures cover basic topics such as R programming, visualization, data wrangling and cleaning, exploratory data analysis, web scraping, data merging, predictive modeling, and elements of machine learning. Programming analyses in more advanced areas of data science. Students may not receive credit for both STOR 320 and STOR 520.

Rules & Requirements
Requisites: Prerequisites, STOR 435 or 535, and STOR 455.
Grading Status: Letter grade.

STOR 535. Probability for Data Science. 3 Credits.
This course is an advanced undergraduate course in probability with the aim to give students the technical and computational tools for advanced courses in data analysis and machine learning. It covers random variables, moments, binomial, Poisson, normal and related distributions, generating functions, sums and sequences of random variables, statistical applications, Markov chains, multivariate normal and prediction analytics. Students may not receive credit for both STOR 435 and STOR 535.

Rules & Requirements
Requisites: Prerequisites, MATH/STOR 235 or MATH 233; and STOR 215 or STOR 315 or MATH 381 or COMP 283.
Grading Status: Letter grade.

STOR 538. Sports Analytics. 3 Credits.
This course will survey the history of sports analytics across multiple areas and challenge students in team-based projects to practice sports analytics. Students will learn how applied statistics and mathematics help decision makers gain competitive advantages for on-field performance and off-field business decisions.

Rules & Requirements
Requisites: Prerequisite, STOR 320 or STOR 455.
Grading Status: Letter grade.

STOR 543. Dynamic Decision Analytics. 3 Credits.
An introduction to algorithms and modeling techniques that use knowledge gained from prior experience to make intelligent decisions in real time. Topics include Markov decision processes, dynamic programming, multiplicative weights update, exploration vs. exploitation, multi-armed bandits, and two player games. Previously offered as STOR 515.

Rules & Requirements
Requisites: Prerequisites, STOR 435 or 535, and MATH 347.
Grading Status: Letter grade.

STOR 545. Stochastic Models and their Applications. 3 Credits.
This course is structured into modules, each of which describes a real-world problem that can be solved using stochastic modeling techniques, including discrete-time Markov chains, stochastic arrival processes, continuous-time Markov chains and Brownian motion. The course focuses on identifying the sources of randomness, the interactions between them, and the choice of parameters for the specified model. Students in the course will use general programming languages to create simulations as well as specialized simulation software.

Rules & Requirements
Requisites: Prerequisite, STOR 445.
Grading Status: Letter grade.

STOR 555. Mathematical Statistics. 3 Credits.
Functions of random samples and their probability distributions, introductory theory of point and interval estimation and hypothesis testing, elementary decision theory.

Rules & Requirements
Requisites: Prerequisite, STOR 435, or 535.
Grading Status: Letter grade.

STOR 556. Time Series Data Analysis. 3 Credits.
This course covers the fundamental theory and methods for time series data, as well as related statistical software and real-world data applications. Topics include the autocorrelation function, estimation and elimination of trend and seasonality, estimation and forecasting procedures in ARMA models and nonstationary time series models.

Rules & Requirements
Requisites: Prerequisites, STOR 435 or 535, and STOR 455.
Grading Status: Letter grade.

STOR 557. Advanced Methods of Data Analysis. 3 Credits.
The course covers advanced data analysis methods beyond those in STOR 455 and how to apply them in a modern computer package, specifically R or R-Studio which are the primary statistical packages for this kind of analysis. Specific topics include (a) Generalized Linear Models; (b) Random Effects; (c) Bayesian Statistics; (d) Nonparametric Methods (kernels, splines and related techniques).

Rules & Requirements
Requisites: Prerequisites, STOR 435 or 535, and STOR 455.
Grading Status: Letter grade.

STOR 565. Machine Learning. 3 Credits.
Introduction to theory and methods of machine learning including classification; Bayes risk/rule, linear discriminant analysis, logistic regression, nearest neighbors, and support vector machines; clustering algorithms; overfitting, estimation error, cross validation.

Rules & Requirements
Requisites: Prerequisites, STOR 215 or 315 or MATH 381, and STOR 435 or 535.
Grading Status: Letter grade.

STOR 566. Introduction to Deep Learning. 3 Credits.
Deep neural networks (DNNs) have been widely used for tackling numerous machine learning problems that were once believed to be challenging. With their remarkable ability of fitting training data, DNNs have achieved revolutionary successes in many fields such as computer vision, natural language progressing, and robotics. This is an introduction course to deep learning.

Rules & Requirements
Requisites: Prerequisites, STOR 415 or 512; and COMP 110 or 116.
Grading Status: Letter grade.

STOR 572. Simulation for Analytics. 3 Credits.
This upper-level-undergraduate and beginning-graduate-level course introduces the concepts of modeling, programming, and statistical analysis as they arise in stochastic computer simulations. Topics include modeling static and discrete-event simulations of stochastic systems, random number generation, random variate generation, simulation programming, and statistical analysis of simulation input and output.

Rules & Requirements
Requisites: Prerequisites, STOR 120 or 155, and STOR 435 or 535.
Grading Status: Letter grade.

STOR 590. Special Topics in Statistics and Operations Research. 3 Credits.
Examines selected topics from statistics and operations research. Course description is available from the department office.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.
Grading Status: Letter grade.

STOR 612. Foundations of Optimization. 3 Credits.
STOR 612 consists of three major parts: linear programming, quadratic programming, and unconstrained optimization. Topics: Modeling, theory and algorithms for linear programming; modeling, theory and algorithms for quadratic programming; convex sets and functions; first-order and second-order methods such as stochastic gradient methods, accelerated gradient methods and quasi-Newton methods for unconstrained optimization.

Rules & Requirements
Requisites: Prerequisites, MATH 347 and 521 or permission of the instructor.
Grading Status: Letter grade.

STOR 614. Advanced Optimization. 3 Credits.
STOR 614 consists of three major parts: Integer programming, conic programming, and nonlinear optimization. Topics: modeling, theory and algorithms for integer programming; second-order cone and semidefinite programming; theory and algorithms for constrained optimization; dynamic programming; networks.

Rules & Requirements
Requisites: Prerequisite, STOR 612 or equivalent (or permission of instructor).
Grading Status: Letter grade.

STOR 634. Probability I. 3 Credits.
Required preparation, advanced calculus. Lebesgue and abstract measure and integration, convergence theorems, differentiation. Radon-Nikodym theorem, product measures. Fubini theorems. Lp spaces.

Rules & Requirements
Grading Status: Letter grade.

STOR 635. Probability II. 3 Credits.
Foundations of probability. Basic classical theorems. Modes of probabilistic convergence. Central limit problem. Generating functions, characteristic functions. Conditional probability and expectation.

Rules & Requirements
Requisites: Prerequisite, STOR 634; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Same as: MATH 635.

STOR 641. Stochastic Modeling I. 3 Credits.
The aim of this 3-credit graduate course is to introduce stochastic modeling that is commonly used in various fields such as operations research, data science, engineering, business, and life sciences. Although it is the first course in a sequence of three courses, it can also serve as a standalone introductory course in stochastic modeling and analysis. The course covers the following topics: discrete-time Markov chains, Poisson processes, and continuous-time Markov chains.

Rules & Requirements
Requisites: Prerequisite, Probability background at the level of STOR 435 or STOR 535.
Grading Status: Letter grade.

STOR 642. Stochastic Modeling II. 3 Credits.
This 3-credit course is the second graduate-level course on stochastic modeling that expands upon the material taught in STOR 641. The course covers the following topics: renewal and regenerative processes, queueing models, and Markov decision processes.

Rules & Requirements
Requisites: Prerequisite, STOR 641.
Grading Status: Letter grade.

STOR 654. Statistical Theory I. 3 Credits.
Required preparation, two semesters of advanced calculus. Probability spaces. Random variables, distributions, expectation. Conditioning. Generating functions. Limit theorems: LLN, CLT, Slutsky, delta-method, big-O in probability. Inequalities. Distribution theory: normal, chi-squared, beta, gamma, Cauchy, other multivariate distributions. Distribution theory for linear models.

Rules & Requirements
Grading Status: Letter grade.

STOR 655. Statistical Theory II. 3 Credits.
Point estimation. Hypothesis testing and confidence sets. Contingency tables, nonparametric goodness-of-fit. Linear model optimality theory: BLUE, MVU, MLE. Multivariate tests. Introduction to decision theory and Bayesian inference.

Rules & Requirements
Requisites: Prerequisite, STOR 654.
Grading Status: Letter grade.

STOR 664. Applied Statistics I. 3 Credits.
Permission of the instructor. Basics of linear models: matrix formulation, least squares, tests. Computing environments: SAS, MATLAB, S +. Visualization: histograms, scatterplots, smoothing, QQ plots. Transformations: log, Box-Cox, etc. Diagnostics and model selection.

Rules & Requirements
Grading Status: Letter grade.

STOR 665. Applied Statistics II. 3 Credits.
ANOVA (including nested and crossed models, multiple comparisons). GLM basics: exponential families, link functions, likelihood, quasi-likelihood, conditional likelihood. Numerical analysis: numerical linear algebra, optimization; GLM diagnostics. Simulation: transformation, rejection, Gibbs sampler.

Rules & Requirements
Requisites: Prerequisite, STOR 664; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

STOR 672. Simulation Modeling and Analysis. 3 Credits.
Introduces students to modeling, programming, and statistical analysis applicable to computer simulations. Emphasizes statistical analysis of simulation output for decision-making. Focuses on discrete-event simulations and discusses other simulation methodologies such as Monte Carlo and agent-based simulations. Students model, program, and run simulations using specialized software. Familiarity with computer programming recommended.

Rules & Requirements
Requisites: Prerequisites, STOR 555 and 641.
Grading Status: Letter grade.
Same as: COMP 672.

STOR 674. Statistical and Computational Tools for Reproducible Data Science. 3 Credits.
The purpose of this course is to provide a strong foundation in computational skills needed for reproducible research in data science and statistics. Topics will include computational tools and programming skills to facilitate reproducibility, as well as procedures and methods for reproducible conclusions.

Rules & Requirements
Requisites: Prerequisite, STOR 320 or 664.
Grading Status: Letter grade.

STOR 690. Special Topics. 3 Credits.
Examines selected topics from statistics and operations research. Course description is available from the department office.

Rules & Requirements
Repeat Rules: May be repeated for credit. 12 total credits. 4 total completions.
Grading Status: Letter grade.

STOR 691H. Honors in Statistics and Analytics. 3 Credits.
Permission of the department. Majors only. Individual reading, study, or project supervised by a faculty member.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

STOR 692H. Honors in Statistics and Analytics. 3 Credits.
Permission of the department. Majors only. Individual reading, study, or project supervised by a faculty member.

Rules & Requirements
IDEAs in Action Gen Ed: RESEARCH.
Grading Status: Letter grade.

STOR 697. Capstone. 3 Credits.
This course is designed to give Statistics & Analytics (STAN) majors an opportunity to integrate and apply the knowledge and skills acquired throughout the STAN degree. At the beginning of the semester, the instructor will present to the class a broad description of several problems originating from external industry partners, and covering a wide range of statistics, modeling, optimization, and data science topics. Students will work on these problems throughout the remainder of the semester.

Rules & Requirements
IDEAs in Action Gen Ed: COMMBEYOND.
Requisites: Prerequisite, Students are expected to have completed at least 75% of the core requirements for the STAN major.
Grading Status: Letter grade.

Graduate-level Courses

STOR 701. Statistics and Operations Research Colloquium. 1 Credits.
This seminar course is intended to give Ph.D. students exposure to cutting edge research topics in statistics and operations research and assist them in their choice of a dissertation topic. The course also provides a forum for students to meet and learn from major researchers in the field.

Rules & Requirements
Repeat Rules: May be repeated for credit. 10 total credits. 10 total completions.
Grading Status: Letter grade.

STOR 702. Seminar in Teaching. 1 Credits.
This seminar course is intended to give Ph.D. students exposure to various issues and pedagogy in teaching statistics and operations research. The course also provides a forum for students to observe and learn from current teaching faculty. Students should register for one credit only. STOR Ph.D. students only.

Rules & Requirements
Repeat Rules: May be repeated for credit. 3 total credits. 3 total completions.
Grading Status: Letter grade.

STOR 712. Optimization for Machine Learning and Data Science. 3 Credits.
This course will provide a detailed and deep treatment for commonly used methods in continuous optimization, with applications in machine learning, statistics, data science, operations research, among others.

Rules & Requirements
Requisites: Prerequisite, STOR 612 or equivalent.
Grading Status: Letter grade.

STOR 713. Mathematical Programming II. 3 Credits.
Advanced theory for nonlinear optimization. Algorithms for unconstrained and constrained problems.

Rules & Requirements
Requisites: Prerequisite, STOR 712; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

STOR 722. Integer Programming. 3 Credits.
Techniques for formulating and solving discrete valued and combinatorial optimization problems. Topics include enumerative and cutting plane methods, Lagrangian relaxation, Benders' decomposition, knapsack problems, and matching and covering problems.

Rules & Requirements
Requisites: Prerequisite, STOR 614; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

STOR 734. Stochastic Processes. 3 Credits.
Discrete and continuous parameter Markov chains, Brownian motion, stationary processes.

Rules & Requirements
Requisites: Prerequisite, STOR 435.
Grading Status: Letter grade.

STOR 743. Reinforcement Learning and Markov Decision Processes. 3 Credits.
Markov decision processes (stochastic dynamic programming): finite horizon, infinite horizon, discounted and average-cost criteria; reinforcement learning(RL): design and analysis of model-free, model-based, value-based, and policy-based RL algorithms, RL algorithms in continuous and discrete state and action space, and RL with functional approximation. These algorithms include but are not limited to (deep) Q-learning, asynchronous advantage actor-critic, soft actor-critic, and proximal policy optimization.

Rules & Requirements
Requisites: Prerequisite, STOR 641 or permission of instructor.
Grading Status: Letter grade.

STOR 754. Time Series and Multivariate Analysis. 3 Credits.
Introduction to time series: exploratory analysis, time-domain analysis and ARMA models, Fourier analysis, state space analysis. Introduction to multivariate analysis: principal components, canonical correlation, classification and clustering, dimension reduction.

Rules & Requirements
Requisites: Prerequisites, STOR 435 and 555.
Grading Status: Letter grade.

STOR 755. Estimation, Hypothesis Testing, and Statistical Decision. 3 Credits.
Bayes procedures for estimation and testing. Minimax procedures. Unbiased estimators. Unbiased tests and similar tests. Invariant procedures. Sufficient statistics. Confidence sets. Large sample theory. Statistical decision theory.

Rules & Requirements
Requisites: Prerequisites, STOR 635 and 655.
Grading Status: Letter grade.

STOR 757. Bayesian Statistics and Generalized Linear Models. 3 Credits.
Bayes factors, empirical Bayes theory, applications of generalized linear models.

Rules & Requirements
Requisites: Prerequisite, STOR 555.
Grading Status: Letter grade.

STOR 765. Statistical Consulting. 1.5 Credits.
Application of statistics to real problems presented by researchers from the University and local companies and institutes. (Taught over two semesters for a total of 3 credits.)

Rules & Requirements
Repeat Rules: May be repeated for credit. 3 total credits. 2 total completions.
Grading Status: Letter grade.

STOR 766. Leading Research Teams. 3 Credits.
Graduate students will lead groups of four to five undergraduate students to complete a project for an external client. Clients from an array of industries, as well as those from within UNC, will submit project requests that are feasible within a 12-week semester. The course will offer graduate students an authentic learning experience to develop management skills and professional attributes, such as teamwork, communication, and project management, in preparation for workforce entry.

Rules & Requirements
Requisites: Prerequisites, STOR 664, STOR 665 and STOR 765, or Instructor's Permission.
Grading Status: Letter grade.
Same as: DATA 766.

STOR 767. Advanced Statistical Machine Learning. 3 Credits.
This is a graduate course on statistical machine learning.

Rules & Requirements
Requisites: Prerequisites, STOR 654, 655, 664, 665 and permission of the instructor.
Grading Status: Letter grade.

STOR 790. Operations Research and Systems Analysis Student Seminar. 1 Credits.
Survey of literature in operations research and systems analysis.

Rules & Requirements
Grading Status: Letter grade.

STOR 822. Topics in Discrete Optimization. 3 Credits.
Topics may include polynomial algorithms, computational complexity, matching and matroid problems, and the traveling salesman problem.

Rules & Requirements
Requisites: Prerequisite, STOR 712; Permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Same as: COMP 822.

STOR 824. Computational Methods in Mathematical Programming. 3 Credits.
Advanced topics such as interior point methods, parallel algorithms, branch and cut methods, and subgradient optimization.

Rules & Requirements
Requisites: Prerequisite, STOR 712; Permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.

STOR 831. Advanced Probability. 3 Credits.
Advanced theoretic course, covering topics selected from weak convergence theory, central limit theorems, laws of large numbers, stable laws, infinitely divisible laws, random walks, martingales.

Rules & Requirements
Requisites: Prerequisites, STOR 634 and 635.
Repeat Rules: May be repeated for credit. 9 total credits. 3 total completions.
Grading Status: Letter grade.

STOR 832. Stochastic Processes. 3 Credits.
Advanced theoretic course including topics selected from foundations of stochastic processes, renewal processes, Markov processes, martingales, point processes.

Rules & Requirements
Requisites: Prerequisites, STOR 634 and 635.
Grading Status: Letter grade.

STOR 834. Extreme Value Theory. 3 Credits.
This course covers both mathematical theory and statistical methodology concerned with extreme values in sequences of random variables. IID theory: the three types of extreme value distributions, statistical methods by block maxima and threshold exceedances. Extensions to dependent stochastic sequences: the extremal index and related concepts. Multivariate and spatial extremes, max-stable process. Applications in: engineering and strength of materials; finance and insurance; environment and climate.

Rules & Requirements
Requisites: Prerequisites, STOR 635 and 654.
Grading Status: Letter grade.

STOR 835. Point Processes. 3 Credits.
Random measures and point processes on general spaces, Poisson and related processes, regularity, compounding. Point processes on the real line stationarity, Palm distributions, Palm-Khintchine formulae. Convergence and related topics.

Rules & Requirements
Requisites: Prerequisite, STOR 635.
Grading Status: Letter grade.

STOR 836. Stochastic Analysis. 3 Credits.
Brownian motion, semimartingale theory, stochastic integrals, stochastic differential equations, diffusions, Girsanov's theorem, connections with elliptic PDE, Feynman-Kac formula. Applications: mathematical finance, stochastic networks, biological modeling.

Rules & Requirements
Requisites: Prerequisites, STOR 634 and 635.
Grading Status: Letter grade.

STOR 854. Statistical Large Sample Theory. 3 Credits.
Asymptotically efficient estimators; maximum likelihood estimators. Asymptotically optimal tests; likelihood ratio tests.

Rules & Requirements
Requisites: Prerequisites, STOR 635 and 655.
Grading Status: Letter grade.

STOR 871. Convex Analysis and Optimization Theory. 3 Credits.
Convex analysis and optimization including sets, functions, basic concepts, minimax theory, duality, and optimality conditions.

Rules & Requirements
Grading Status: Letter grade.

STOR 881. Object Oriented Data Analysis. 1-3 Credits.
Object Oriented Data Analysis (OODA) is the statistical analysis of populations of complex objects. Examples include data sets where the data points could be curves, images, shapes, movies, or tree structured objects.

Rules & Requirements
Grading Status: Letter grade.

STOR 890. Special Problems. 1-3 Credits.
Permission of the instructor.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

STOR 891. Special Problems. 1-3 Credits.
Permission of the instructor.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

STOR 892. Special Topics in Operations Research and Systems Analysis. 1-3 Credits.
Permission of the instructor.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

STOR 893. Special Topics. 1-3 Credits.
Advance topics in current research in statistics and operations research.

Rules & Requirements
Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics.
Grading Status: Letter grade.

STOR 894. Special Topics at SAMSI. 3 Credits.
Advanced topics in current research in statistics and operations research. This course is held at SAMSI.

Rules & Requirements
Repeat Rules: May be repeated for credit. 6 total credits. 2 total completions.
Grading Status: Letter grade.

STOR 910. Directed Reading in Statistics and Operations Research. 1-3 Credits.
Students will read selected works under supervision of instructor, and attend discussion meetings. Permission of the instructor.

Rules & Requirements
Repeat Rules: May be repeated for credit. 12 total credits. 12 total completions.
Grading Status: Letter grade.

STOR 930. Advanced Research. 1-3 Credits.
Permission of the instructor.

Rules & Requirements
Grading Status: Letter grade.

STOR 940. Seminar in Theoretical Statistics. 1-3 Credits.
Rules & Requirements
Requisites: Prerequisite, STOR 655.
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

STOR 950. Advanced Research. 0.5-21 Credits.
Permission of the instructor.

Rules & Requirements
Grading Status: Letter grade.

STOR 960. Seminar in Theoretical Statistics. 0.5-21 Credits.
Rules & Requirements
Requisites: Prerequisite, STOR 655.
Grading Status: Letter grade.

STOR 970. Practicum. 1-3 Credits.
Students work with other organizations (Industrial/Governmental) to gain practical experience in Statistics and Operations Research.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

STOR 992. Master's (Non-Thesis). 3 Credits.
Permission of instructor.

Rules & Requirements
Repeat Rules: May be repeated for credit.

STOR 994. Doctoral Research and Dissertation. 3 Credits.
Permission of instructor.

Rules & Requirements
Repeat Rules: May be repeated for credit.

Contact Information

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CURRICULUM IN TOXICOLOGY AND ENVIRONMENTAL MEDICINE (GRAD)

The Curriculum in Toxicology and Environmental Medicine administers a degree program leading to the award of the Ph.D. in toxicology. The curriculum is an interdisciplinary program, and its faculty is drawn from various administrative units of the schools of medicine, pharmacy, and public health. The training faculty also includes scientists at government laboratories on campus or in the Research Triangle Park (e.g., EPA, NIEHS). The research interests of the faculty include most areas of toxicology, with particular emphasis on understanding the links between the environment and health risks, the mode of action of toxicants and disease pathogenesis, and how emerging knowledge could be translated into prevention strategies, new therapeutic interventions, and an improved scientific basis for risk assessment.

The main areas of research concentration are molecular carcinogenesis, mechanistic toxicology, neurotoxicology, cardiopulmonary toxicology, hepatic toxicology, computational toxicology, developmental toxicology, immunotoxicology, drug and xenobiotic metabolism, and ethanol toxicology. Multidisciplinary efforts are directed at environmental toxicology, systems biology, animal models of human diseases, translational research, and biomarkers. The faculty generally does not conduct research in the areas of aquatic toxicology, forensic toxicology, the ecological aspects of toxicology, or studies in invertebrate systems. The research activities of the Curriculum in Toxicology are conducted in the laboratory facilities assigned to each faculty member by a participating administrative unit.

Applications

Students with interest in the Ph.D. degree in toxicology must apply for Graduate School admission through the Biological and Biomedical Sciences Program (p. 119). Applications are considered from students who have received or expect to receive a B.S./B.A. or an M.S. degree in a scientific discipline. A desirable background for predoctoral studies in toxicology includes courses in biological sciences (including histology and animal physiology), in chemistry (including analytical and organic), and in mathematics through calculus, although all of these are not absolutely essential. A strong course in general biochemistry accelerates the student's progress. Applicants are evaluated on the basis of undergraduate (and graduate) academic performance, and letters of recommendation. Students are accepted on the basis of their achievement and potential. Prior research experience is strongly considered in the assessment of qualifications for admission.

Financial Aid

The curriculum seeks to fund predoctoral students each year. All applicants are considered for financial aid awards.

Toxicology, Doctoral Program (Ph.D.)

The Curriculum in Toxicology and Environmental Medicine administers a degree program leading to the award of the Ph.D. in toxicology. The curriculum is an interdisciplinary program, and its faculty is drawn from various administrative units of the schools of medicine, pharmacy, and public health. The training faculty also includes scientists at government laboratories on campus or in the Research Triangle Park (e.g., EPA, NIEHS). The research interests of the faculty include most areas of toxicology, with particular emphasis on understanding the links between the environment and health risks, the mode of action of toxicants and disease pathogenesis, and how emerging knowledge could be translated into prevention strategies, new therapeutic interventions, and an improved scientific basis for risk assessment.

The main areas of research concentration are molecular carcinogenesis, mechanistic toxicology, neurotoxicology, cardiopulmonary toxicology, hepatic toxicology, computational toxicology, developmental toxicology, immunotoxicology, drug and xenobiotic metabolism, and ethanol toxicology. Multidisciplinary efforts are directed at environmental toxicology, systems biology, animal models of human diseases, translational research, and biomarkers. The faculty generally does not conduct research in the areas of aquatic toxicology, forensic toxicology, the ecological aspects of toxicology, or studies in invertebrate systems. The research activities of the Curriculum in Toxicology are conducted in the laboratory facilities assigned to each faculty member by a participating administrative unit.

Course Requirements

Code	Title	Hours
Core Courses		
PATH 713	Molecular and Cellular Pathophysiological Basis of Disease: Mechanisms of Disease	3
PATH 714L	Molecular and Cellular Pathophysiological Basis of Disease: Laboratory I	2
TOXC 707	Advanced Toxicology	3
TOXC 721	Toxicology Seminar II	1
TOXC 722	Toxicology Seminar III [1]	6
TOXC 749	Biochemical Toxicology	3
TOXC 821	Scientific Writing	1
Complete one of the following courses:		3
BBSP 710	Biostatistics for Laboratory Scientists	
BCB 720	Introduction to Statistical Modeling	
BIOS 600	Principles of Statistical Inference	
Electives		
A minimum of two elective didactic courses from list below.		3
Thesis/Substitute or Dissertation Course		
At least 3 hours, each semester, of: [2]		18+
TOXC 901	Research in Toxicology	
or TOXC 994	Doctoral Research and Dissertation	
Minimum Hours		**40**

[1] TOXC 722 must be taken every semester for 1 credit hour.

[2] TOXC 901 after joining program in year 2 and until passing written qualifying exam. TOXC 994 after passing qualifying exam.

Code	Title	Hours
Electives [1]		
BCB 710	Bioinformatics Colloquium	1
BIOL 631	Advanced Molecular Biology	4
CBPH 852	Experimental Physiology of Human Health and Disease	4
CBPH 853	Experimental Physiology of Human Health and Disease	4
ENVR 470	Environmental Risk Assessment	3
ENVR 601	Epidemiology for Environmental Scientists	3

ENVR 630	Systems Biology in Environmental Health	3
ENVR 730	Computational Toxicology and Exposure Science	3
GNET 621	Principles of Genetic Analysis I	3
GNET 646	Mouse Models of Human Disease	1
GNET 647	Human Genetics and Genomics	1
MCRO 614	Immunobiology	3
PHCO 701	Introduction to Molecular Pharmacology	3

[1] This recommended list is not exhaustive and availability of courses may change, please look at courses provided by other BBSP providers; other courses can be taken based on student need or DGS recommendation.

Milestones

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 27) for more information.

- Doctoral Committee
- Doctoral Oral Comprehensive Exam
- Doctoral Written Exam
- Prospectus Oral Exam (Dissertation Proposal, includes written and oral components)
- Dissertation Defense
- Doctoral Dissertation Approved/Format Accepted
- Residence Credit
- Doctoral Exit Survey

Professors

Shawn Ahmed
Neil Alexis
Kim R. Brouwer
Rebecca Fry
Avram Gold
Ilona Jaspers
Beverly Koller
Leena A. Nylander-French
David Peden
Dale A. Ramsden
Scott H. Randell
Matthew Redinbo
Shehzad Z. Sheikh
Miroslav Styblo
Alexander Tropsha
Cyrus Vaziri
Paul B. Watkins
Bernard E. Weissman
Mark Zylka

Associate Professors

Erin Baker
Folami Ideraabdullah
Samir Kelada
Jeffrey M. Macdonald
Timothy P. Moran
Celia Shiau

Assistant Professors

Edward Bahnson
Leon Coleman Jr.
Elizabeth Corteselli
Klarissa Dawniette Jackson
Julia Rager
Meghan Rebuli
Imran Rizvi
Johanna Smeekens
Gregory Smith

Faculty Affiliates from Other Research Institutions

National Institute of Environmental Health Sciences

Kelly Ferguson
Stephen Ferguson
Michael B. Fessler
G. Jean Harry
Gregory S. Travlos
Carmen J. Williams

North Carolina Central University

Antonio Baines

U.S. Environmental Protection Agency

Brian Chorley
Hisham El-Masri
Aimen K. Farraj
Stephen Gavett
M. Ian Gilmour
Mehdi A. Hazari
David Herr
Erin Hines
Thomas Jackson
Yong Ho Kim
Urmila P. Kodavanti
Elizabeth Medlock Kakaley
Colette Miller
John M. Rogers
James M. Samet
Haiyan Tong
Cavin Ward-Caviness

TOXC

Advanced Undergraduate and Graduate-level Courses

TOXC 423. Developmental Toxicology and Teratology. 3 Credits.
Emphasizes topics of current research interest relative to the genesis of environmentally caused and genetically based birth defects. One two-hour session per week (evening).

Rules & Requirements
Grading Status: Letter grade.
Same as: CBIO 423.

Graduate-level Courses

TOXC 701. Current Topics in Toxicology. 1 Credits.
In this course, we will read, discuss and present primary research articles, from various research groups, in order to interpret the true meaning of recent scientific findings in the field of toxicology. A general understanding of Biology, Chemistry and Human Health is required.

Rules & Requirements
Grading Status: Letter grade.

TOXC 702. Principles of Pharmacology and Physiology. 3 Credits.
Introduces students to the major areas of pharmacology and physiology and serves as a basis for more advanced courses. Three lecture hours a week.

Rules & Requirements
Requisites: Prerequisite, CHEM 430; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Same as: PHCO 702.

TOXC 707. Advanced Toxicology. 3 Credits.
Cellular and physiological basis of toxicity of environmental chemicals, with emphasis on inhalation toxicology, developmental toxicology, immunotoxicology, radiation toxicology, renal toxicology, and neurotoxicology. Three lecture hours per week.

Rules & Requirements
Requisites: Prerequisite, PHCO 702; permission of the instructor for students lacking the prerequisite.
Grading Status: Letter grade.
Same as: ENVR 707, PHCO 707.

TOXC 721. Toxicology Seminar II. 1 Credits.
Student-conducted presentations and discussions of recent advances in toxicology; emphasis on critical evaluation of published investigations and on organization and oral delivery of presentations. One hour per week.

Rules & Requirements
Grading Status: Letter grade.

TOXC 722. Toxicology Seminar III. 1 Credits.
Presentations by outside invited speakers, local faculty, advanced graduate students, and postdoctoral trainees. Topics will cover all areas of research in toxicology. One hour per week.

Rules & Requirements
Grading Status: Letter grade.
Same as: ENVR 722.

TOXC 735. Regulatory Toxicology-Interacting with regulatory agencies & approval for drug, device, and chemical. 3 Credits.
Regulatory agency fundamentals, regulatory process for drug, medical device, cosmetic and agrochemical products. Industry, regulatory agency representatives and consultants will be invited to speak directly about their regulatory policies, challenges, and expectations. Students will develop and present a regulatory submission package as part of a group project.

Rules & Requirements
Grading Status: Letter grade.
Same as: GRAD 735.

TOXC 749. Biochemical Toxicology. 3 Credits.
Required preparation, one course in biochemistry. Biochemical actions of toxicants and assessment of cellular damage by biochemical measurements. Three lecture hours per week.

Rules & Requirements
Requisites: Prerequisite, CHEM 430; permission of the instructor for students lacking the prerequisites.
Grading Status: Letter grade.
Same as: ENVR 749, BIOC 749.

TOXC 760. Toxicokinetics. 3 Credits.
A quantitative examination of the time course of absorption, distribution, metabolism, excretion, and biologic effects of agents of toxicologic interest. Three lecture hours per week.

Rules & Requirements
Grading Status: Letter grade.

TOXC 792. Seminar in Carcinogenesis. 2 Credits.
Permission of the instructor. Survey of classical and current literature on selected critical issues in carcinogenesis. Students discuss experimental methods and observations as well as theories and generalizations. Two seminar hours a week.

Rules & Requirements
Grading Status: Letter grade.
Same as: PATH 792.

TOXC 821. Scientific Writing. 1 Credits.
Doctoral candidacy in toxicology required. Workshops on scientific writing with special emphasis on fellowship applications and the doctoral research proposal. Students work on several written assignments and are expected to complete a draft of their proposals by the end of the semester.

Rules & Requirements
Grading Status: Letter grade.

TOXC 901. Research in Toxicology. 1-6 Credits.
May be repeated. Students register in this course as they formulate their doctoral research projects.

Rules & Requirements
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

TOXC 992. Master's (Non-Thesis). 3 Credits.
Students acquire practical experience through an internship program at a non-academic institution where knowledge in toxicology is applied toward its mission. They subsequently prepare a capstone monograph (thesis substitute) that reports on their individualized experience, a requirement for the MPS in Toxicology.

Rules & Requirements
Requisites: Prerequisites, TOXC 442 and TOXC 707.
Repeat Rules: May be repeated for credit.
Grading Status: Letter grade.

TOXC 993. Master's Research and Thesis. 3 Credits.
May be repeated. Hours and credits to be arranged.

Rules & Requirements
Repeat Rules: May be repeated for credit.

TOXC 994. Doctoral Research and Dissertation. 3 Credits.
May be repeated. Hours and credits to be arranged.

Rules & Requirements
Repeat Rules: May be repeated for credit.

Contact Information

Curriculum in Toxicology
Visit Program Website (http://www.med.unc.edu/toxicology/)

Director of the Curriculum in Toxicology & Environmental Medicine
Meghan Rebuli
Meghan_Rebuli@med.unc.edu

Director of Admissions
Edward Bahnson
Edward_Bahnson@med.unc.edu

Director of Post Doctoral Studies
Bernard Weissman
Bernard_Weissman@med.unc.edu

Business Services Coordinator and Student Services Manager
David Chapman
David_Chapman@med.unc.edu

RESOURCES

For a list of UNC resources, please see the University's Resources Web site (https://studentsuccess.unc.edu/campus-resources/).

Included in this section of the University Catalog are descriptions for some of the resources available to current and prospective students.

- Resources: Academic and Research (p. 788)
- Resources: Campus Life (p. 791)
- Resources: Career Planning (p. 798)
- Resources: Health and Wellness (p. 799)
- Resources: Service and Leadership (p. 801)

RESOURCES: ACADEMIC AND RESEARCH

Thrive@Carolina Campus Hubs

Chloē J. Russell, M.Ed., *Associate Dean and Director*

Thrive@Carolina Campus Hubs (Hubs), which includes UNC Advising (https://advising.unc.edu), is a collaborative and innovative approach to deliver holistic support to undergraduates from admission through graduation. Its mission is to champion students' individual stories through purposeful interactions so that they achieve their academic, personal, and post-UNC goals. Anchored in the belief that we serve a diverse population in which every student does not need the same support or know the same information, Hubs partner with students as they unlock their potential, activate their plans, secure their opportunities, and cultivate their community. Nestled within the College of Arts & Sciences, Hubs are comprised of approximately 60 full- and part-time personnel and serve students in a variety of campus locations.

Center for Student Success

Dr. Kim Abels, Ph.D., *Interim Associate Dean*
2203 SASB North; (919) 966-2143

The Center for Student Success (CFSS) (https://studentsuccess.unc.edu/) has a simple mission, which is connecting with all UNC–Chapel Hill students to promote your academic and personal growth. Its constituent offices and programs (The Learning Center, The Writing Center, Peer Mentoring, Summer Bridge, Carolina Firsts, and Transfer Student Support) support you in developing the skills and strategies needed to excel at UNC and beyond. Our commitment to student learning supports the University's mission to "teach a diverse community of undergraduate, graduate, and professional students to become the next generation of leaders." We also support the University's commitment to diversity and in doing so sponsor programs and activities that promote academic excellence, increase retention, and improve the campus climate for diversity among all undergraduates.

Carolina Firsts

Brittany Grant, M.S., *Program Coordinator*
grantbn@live.unc.ed (grantbn@live.unc.edu)u
2203 SASB North; (919) 843-8697

Carolina Firsts refers to the first-generation students at UNC. The program is dedicated to supporting and empowering the first-generation population to achieve their academic and personal goals through programming and one-on-one support.

Examples of events and programming include:

For more details on events, visit the Events *(*https://studentsuccess.unc.edu/carolina-firsts/events-activities/*) page or visit the* Heel Life page *(*https://heellife.unc.edu/organization/cfssprograms/*).*

- **First-Gen Fridays**: Once a month we hold space for first-gen students to build community through fun, social activities
- **I am First: Workshop Series:** These monthly workshops cover various topics related to students' personal, professional, and academic success
- **Events during Family Weekend**
- **National First-Gen Day Celebration**: Usually held around November 8. Several events recognize and celebrate first-generation students
- **Graduation and Pinning Ceremony**: Graduating, first-generation seniors receive "Carolina Firsts" pins. Friends and family are invited to attend

The Learning Center

Dr. Kim Abels, Ph.D., *Director*
0118 and 2109 SASB North, (919) 962-3782

The Learning Center (http://learningcenter.unc.edu) helps students optimize their learning strategies to meet all their academic goals at Carolina. To make an appointment with an academic coach or check out this year's event calendar, visit the Learning Center's website (http://learningcenter.unc.edu/). The Learning Center regularly offers an array of programs and services popular with undergraduate students, including:

- **One-on-one appointments** with an academic coach. The Learning Center holds some coaching appointments in 221 Greenlaw Hall, which is located across from the Undergraduate Library. Coaching appointments provide opportunities for students to set personal academic goals and get support and accountability in the process.
- **Peer tutoring** for many introductory courses. The Learning Center provides peer tutoring by appointment in Dey Hall on Monday and Tuesday evenings (walk-ins also welcome) or make an appointment for select courses.
- **STEM support**, including academic coaching and learning groups for BIOL 101, BIOL 103, BIOL 104, CHEM 101, CHEM 102, CHEM 261, MATH 130, MATH 231, and STOR 155.
- **Workshops** on topics such as metacognitive learning strategies, reading speed and comprehension, time management, and more.
- Handouts and videos **(**http://learningcenter.unc.edu/tips-and-tools/**)** offering tips and tools to make students' academic lives easier.
- **Study groups and boot camps** providing opportunities to gather with other students to maximize study time and strategies.
- **Test prep resources** for GRE, GMAT, MCAT, and LSAT in partnership with The Princeton Review, at discounts of 20 percent.
- **ADHD/LD support**. Individual appointments and coaching groups are available.

The Peer Mentoring Programs

Hannah Ford, M.A., *Peer Mentoring Coordinator*
0118 SASB North; CB#3106
(919) 962-2185

Peer Mentoring assists in the academic, social, and personal development and adjustment of our newest Tar Heels in their first year at UNC. Incoming students can request peer mentors who are academically successful and socially involved members of the Carolina Community. Peer mentors provide academic counseling, bridge communication between CFSS and first-year students, and assist them with their transition from high school to university life.

The Writing Center

Dr. Kim Abels, Ph.D., *Director*
0127 SASB North; 221 Greenlaw Hall; (919) 962-7710

The Writing Center (http://writingcenter.unc.edu/) helps students become stronger, more flexible writers. To make an appointment with a writing

coach or to submit your draft online, visit the Writing Center's website (https://writingcenter.unc.edu/). The Writing Center is a free service for students, offering:

- One-on-one appointments (https://writingcenter.unc.edu/about/writing-coaching/) with a writing coach. Coaching appointments are 45-minute conversations with undergraduate and graduate students who are specially trained to support students' development as writers.
- Online coaching (https://wc-online.unc.edu/ota/app/) services. Students can submit drafts online, specify their concerns, and request targeted feedback.
- **Feedback on any writing project** at any stage of the writing process. Students can work with a coach on everything from application essays to zoology lab reports. They can come in with nothing but ideas, with an outline, or with a draft. Coaches meet students where they are and help them move forward in the process.
- Handouts and videos (https://writingcenter.unc.edu/tips-and-tools/) on the writing process, citation and sentence-level concerns, writing-specific assignments, and writing in specific disciplines.
- **Write Night events** designed to help students make substantial progress on their drafts at key points each semester.
- English language resources (https://writingcenter.unc.edu/esl/) and language specialists who support the academic and social communication of Carolina's international students.
- **Volunteer opportunities**! With our Speaking Group (https://writingcenter.unc.edu/esl/speaking-groups/) and U.S. English Pronunciation (https://writingcenter.unc.edu/esl/esl-mini-courses/) class, Carolina students can build relationships and gain valuable exposure to global cultures.
- Job opportunities (https://writingcenter.unc.edu/about/english-402/)! Undergraduate students can apply to work as writing coaches after taking ENGL 402 in the spring semester.

Summer Bridge

Brittany Grant, M.S., *Program Coordinator*
0118 SASB North, CB# 3106
(919) 843-8697

Summer Bridge (https://studentsuccess.unc.edu/summer-bridge/) is a six-week transition program that helps incoming first-year students adjust to Carolina by providing academic enrichment, community building, and co-curricular and experiential learning activities. The program is designed to ease participants' personal and academic transition from high school to the University. Students enroll in academic courses, designed to strengthen both written and quantitative skills. They also participate in activities designed to supplement their summer experience by engaging in high-impact learning experiences often facilitated by units such as the UNC Learning and Writing Centers, University Career Services, and Student Life and Leadership. Additionally, cultural and recreational activities are significant components of the program, as students are introduced to the University and the array of opportunities and resources available. Any student who has been admitted to UNC–Chapel Hill and is a North Carolina resident is eligible to apply.

Transfer Students

Luke Fayard, M.A., *Transfer Student Coordinator*
2203 SASB North
(919) 445-4890

Transfer Student Support (https://studentsuccess.unc.edu/transfer-students/) programs and opportunities are designed specifically for transfer students to acclimate to the Carolina community. The Transfer Student Coordinator serves as one of several contacts for transfer students at UNC and provides support to encourage the success, persistence and graduation of transfer students primarily once they enroll at the university. Program and support services include academic coaching and peer mentor support, along with several opportunities throughout the academic year for community building.

Library System

- Library hours (http://library.unc.edu/hours/)
- Ask a question (http://library.unc.edu/ask/)

The campus libraries are your home for world-class collections, study spaces for every preference, and research expertise across a wide range of subject areas.

Everyone is welcome in all campus libraries, including the House Undergraduate Library, Davis Library, the Wilson Special Collections Library, the Health Sciences Library, and subject-specific branch libraries. Your OneCard is your library card.

Reserve a study room (https://library.unc.edu/places/study/?feature=reservable) to collaborate on group projects. Take advantage of New York Times and Washington Post digital subscriptions, best-selling e-books and audiobooks, and popular streaming movies, all brought to you by the Librar (https://library.unc.edu/services/leisure/)y. Bring your visions to life in the Library's makerspace (https://library.unc.edu/science/makerspace/) with 3D scanning and printing. And visit the Media and Design Center (https://library.unc.edu/house/mdc/resources/) to take your multimedia projects from concept to creation, with production equipment, technology, digital assets, and staff expertise.

Whatever your academic focus, personal passions, and personality, the Library is here to support your success. Sign up for the Library's monthly student newsletter (https://library.unc.edu/social/student-newsletter/) to stay connected.

Math Help Center

Miranda Thomas, Ph.D., *Director*

The Math Help Center (https://math.unc.edu/undergraduate/resources/), located in 237 Phillips Hall, provides additional instructional support for students enrolled in MATH 110 through MATH 233. The center is staffed by both graduate and undergraduate tutors who work with students in small groups or individually. The center's main purposes are to provide assistance and to increase the success rate for students in specific math courses.

Pre-Graduate School Advising

The Pre-Graduate Education Advising Program (https://careers.unc.edu/students/pre-professional-pre-graduate-advising/pre-graduate/), under University Career Services in Hanes Hall (second floor), is a resource offered to students interested in pursuing graduate studies. The program advises undergraduate students considering a graduate degree in various disciplines (sciences, arts and humanities, social sciences, and professional arenas). These advisors can help clarify the differences between a doctorate and a master's degree and the opportunities these terminal degrees may offer. The program is primarily responsible for helping students considering graduate school understand what their

next steps are in researching and applying to graduate programs, so that they can move forward independently and effectively. Students can schedule a pre-grad coaching appointment by visiting Handshake (https://careers.unc.edu/students/resources/schedule-appointment/).

Health Professions Advising

UNC–Chapel Hill has no formal pre-health curriculum or major. Instead, students should choose one of the four-year B.A. or B.S. degree programs and incorporate appropriate prerequisite courses in their planning. Health professional schools encourage students to major in what they are interested in studying; no specific majors are recommended. Students are strongly encouraged to join the health professions listserv (https://hpa.unc.edu/connect/join-the-listserv/) to identify programs that are relevant to their career pathway. First year students or those beginning their journey are encouraged to take BIOL 117 (Exploring Health Professions) and BIOL 118 (Pursuing Health Professions), which are pass/fail 1 credit options focused on exposing students to health professions careers as well as the application process.

The HPA office advises about the many pathways to a health professional career and the various career options in healthcare through facilitated professional programs, individualized meetings, and access to health professions information that encourages application of knowledge and experience. Students can make an appointment with health professions advisors virtually or in person (Health Sciences Library Suite #217B),or join our listserv by visiting the HPA website (https://hpa.unc.edu/).

Pre-law Advising

UNC–Chapel Hill has no formal pre-law curriculum or major. Instead, students should follow one of the four-year B.A. or B.S. degree programs. Most law schools do not require, or even recommend, that students major in any particular field; instead, most law schools prefer applicants who have pursued a course of study that gives a foundation for undertaking legal studies, with an emphasis on reading, writing, speaking, and analytical and critical thinking. However, a student wishing to practice patent law will need a degree in one of the sciences.

Pre-law students should emphasize academics. The campus Learning Center offers programs designed to help enhance reading skills. Students are encouraged to take advantage of this opportunity. Students also are encouraged to schedule a pre-law appointment using Handshake (https://careers.unc.edu/students/resources/schedule-appointment/). They also may wish to visit the Pre-Law Advising website (http://prelaw.unc.edu/), where they can gain helpful information.

Research Institutes and Centers

The intellectual life of the University and the research activities of undergraduates, graduate students and faculty alike receive valuable encouragement and support from a variety of institutes and centers. These institutes do not operate as instructional agencies within the University; rather, they serve to obtain financial and organizational assistance for the scholars who constitute their membership.

Most research centers and institutes can be found on the UNC Research website (http://research.unc.edu/units/a-z/).

Scholarly Journals

The University has published scholarly journals since 1884, when the *Journal of the Elisha Mitchell Scientific Society* first appeared.

The following list contains some of the publications currently produced by the University's graduate and professional programs.

American Diplomacy (https://americandiplomacy.web.unc.edu/). A journal for commentary, analysis and research on American foreign policy and its practice.

UNC Research Stories (https://endeavors.unc.edu/). Features outstanding research and creative work undertaken by faculty and students at the University. Distributed free, the magazine reaches 8,600 on- and off-campus readers in an effort to engage others in Carolina research.

North Carolina Law Review (https://scholarship.law.unc.edu/nclr/). Published by the School of Law to stimulate research and publication by faculty and students.

Studies in the Romance Languages and Literatures (http://romlpub.unc.edu/ncsrll/). For more than 80 years, this publication has supported and disseminated scholarship in the romance literatures.

In addition, the University of North Carolina Press (https://uncpress.org/) publishes several journals. A full list is available on their website (https://uncpress.org/journals/).

The University of North Carolina Press

The University of North Carolina Press (https://uncpress.org/) is the primary publishing arm of the University in the scholarly field. In addition to its publication of the journals of research, it carries on a book publishing program of about 80 new titles a year. Electronic publications also are available. Although these books are the work of scholars from all parts of the world, the presence in the University of a professionally staffed book publishing organization, with facilities for the international distribution of works of scholarship, is a stimulus to research and writing by members of the University community. The Press' program is an important contribution to the development of that aspect of the University's service which has to do with the advancement of learning.

RESOURCES: CAMPUS LIFE

Campus Safety

285 Manning Drive (via Hardin Drive)
Monday - Friday, 7:30 a.m. to 5:00 p.m.
(919) 962-8100 (non-emergency) or 911

UNC Police is committed to creating and maintaining an environment where students, employees, and visitors to campus can feel safe in this vital community. Through its philosophy of community-oriented policing (COP), the department strives to employ professionalism, problem solving, and innovative strategies to remain one of the premier public safety agencies in the nation.

Familiarize yourself with security resources such as the campus-wide network of emergency call boxes, Smart911, self-defense instruction, other crime prevention classes, and much more.

In addition, the University has the capacity to send emergency warnings by text message to students, faculty, and staff through its Alert Carolina initiative. The entire University community is encouraged to educate itself regarding UNC's emergency communications resources and to register cell phones for this method of communication by visiting the Alert Carolina website (https://alertcarolina.unc.edu/).

The LiveSafe App provides students, faculty, and staff a direct connection to UNC Police so that everyone can easily communicate all their safety needs. Its easy-to-use features help you stay safe every day and enable us to better protect you. Benefits include the ability to share information, tips, and safety concerns with UNC Police via pictures, video, or audio messaging; easy access to call or message UNC Police to summon help; access to SafeWalk (https://safewalk.unc.edu/), a GPS-tagged monitoring feature that allows your friends and family to keep you virtually covered until you arrive safely at a destination; and easy-to-find information and location of safety resources on and off campus. To download and set up LiveSafe on your iPhone or Android phone, select "University of North Carolina Chapel Hill" as your affiliation and fill in your user profile.

UNC–Chapel Hill students and staff can learn how to respond in an active shooter scenario by attending a "Shots Fired" training presentation offered by UNC officers.

Concerns may be addressed at the following campus telephone numbers:

- General Information: (919) 962-3951
- Police Emergencies: 911
- Police Non-emergencies: (919) 962-8100

Carolina Housing

Student and Academic Services Building North
CB# 5500
450 Ridge Road
(919) 962-5401
housing@unc.edu

Carolina Housing (https://housing.unc.edu/) works to provide convenient housing that is secure, inclusive, and supportive. Students create a home in our on-campus communities, build lifelong friendships and develop skills for their current and future successes as they journey through their Carolina experience. Students are encouraged to work towards leaving their "HEELprint" on the larger University by connecting with resources, taking advantage of leadership opportunities, and making a difference while they are Carolina students. By getting involved, students develop an identity with the larger University community, create social networks, and find opportunities for intellectual, spiritual, physical, and occupational growth.

Carolina Housing is an integral part of the academic and social community at UNC–Chapel Hill. It is committed to providing an environment conducive to the educational, psychological, and social development of residents. It strives to build a community that balances respect for the individual as well as the rights and interests of the whole community. All members of the residence hall and apartment community — residents, staff, and visitors — are expected to act in a manner that demonstrates respect and consideration for those around them.

Carolina Housing offers a variety of academic success and engagement initiatives to help student staff and on-campus residents develop healthy academic habits and support systems that lead to student success. These initiatives include residential learning programs, academic advising in the residence halls, transitional programming for first-year students, faculty engagement programs such as Meals with Heels and the Scholar in Residence, individual community programming on academic success, and an experiential education course, EDUC 318. This holistic approach complements classroom experiences and lays the foundation for students to become better prepared to succeed in life beyond college.

Graduate Student Housing. Carolina Housing recognizes that the living needs of graduate and professional students are usually different from those of undergraduates. At Carolina, graduate and professional students can enjoy the benefits of being affordably close to classes, facilities, and events, and living in a community of fellow graduate students where the atmosphere is characterized by early quiet hours and respect for personal time and space.

Baity Hill Graduate and Family Housing (https://housing.unc.edu/live/explore-the-halls/graduate-and-family-housing/) is Carolina's on-campus community for graduate students providing apartment-style housing. The property houses students with families and graduate students with roommates. This one- and two-bedroom apartment community is situated on rolling hills adjacent to the campus. The apartments are within walking distance of the campus and are served by campus and city bus routes. Rental costs compare favorably with similar area housing.

Parking is available for graduate students on a limited basis, and a fare-free campus bus service offers several routes that connect the north, middle and south regions of campus. Find specifications for apartments by visiting the Carolina Housing website (https://housing.unc.edu/live/explore-the-halls/graduate-and-family-housing/).

Generally, demand for on-campus housing for graduate students exceeds the supply. On-campus housing is not guaranteed for graduate students, although every effort is made to offer a space to all applicants. Returning residents have priority to re-contract for the following academic year before spaces are offered to new graduate students. Additional information is available on the Carolina Housing website (https://housing.unc.edu/live/explore-the-halls/graduate-and-family-housing/).

Off-Campus Graduate Student Housing. Off-campus housing refers to any housing not owned and operated by the University of North Carolina at Chapel Hill. This category includes small group housing such as fraternities and sororities, as well as apartments, houses, and rooms. Two-thirds of the University's students live in the off-campus market.

Students will find furnished and unfurnished units, as well as units within walking distance to campus or spread throughout Chapel Hill and Carrboro.

Carolina Union

The Carolina Union (https://carolinaunion.unc.edu/) creates safe, inclusive, and educational experiences that enable students to maximize their time at Carolina. "Carolina Union" is the term used for both the Frank Porter Graham Student Union Building and the University department that serves students in many areas of their cocurricular lives. Governed by a board of directors consisting of students and faculty, the Carolina Union's role is to unify the campus community by providing programs, services and facilities.

Cultural, educational, and social programs are planned and implemented by the Carolina Union Activities Board (https://carolinaunion.unc.edu/departments/student-life-leadership/student-activities/carolina-union-activities-board-cuab/) (CUAB).

The Union contributes to the educational mission of the University by providing cultural, social, educational and entertainment programs. The Union also provides many services for the University community, supporting and enhancing student organizations and the programs they create.

- Student Life and Leadership (https://carolinaunion.unc.edu/depts-services/student-life-leadership/)
- Event Services (https://carolinaunion.unc.edu/depts-services/event-services/)
- Communications and Creative Services (https://carolinaunion.unc.edu/services/communications-creative-services/)
- Student Organizations (https://carolinaunion.unc.edu/depts-services/student-organizations/)
- Fraternity and Sorority Life (https://fsl.unc.edu/)

The Office of the Dean of Students

Student Academic Services Building North, Suite 1106
450 Ridge Road
(919) 966-4042

The Office of the Dean of Students (https://odos.unc.edu/) provides support and assistance to the University of North Carolina at Chapel Hill community, empowering students to succeed in navigating the University environment. Its four pillars — Care, Collaborate, Celebrate, and Empower — inform its programs, services, and initiatives. The office often serves as a beginning point of contact for students, faculty members, staff, families, and community constituencies regarding various student concerns. It supports student academic, personal, and professional development through a combination of individual initiatives, innovative outreach programs, and cocurricular opportunities, as well as policy development and oversight.

Off-Campus Student Life

Room 211 Henry Owl Building
CB# 5000
230 E. Cameron Ave
(919) 445-5049

offcampus@unc.edu (e-mail)
offcampus.unc.edu (http://offcampus.unc.edu) (Web)
offcampushousing.unc.edu (http://offcampushousing.unc.edu) (Web)

In alignment with the mission of Student Affairs at the University of North Carolina at Chapel Hill, Off-Campus Student Life (http://offcampus.unc.edu/)is committed to educating all students (undergraduate, graduate and professional) in life skills related to living off campus and in the community. These skills include:

- Becoming responsible tenants and community members knowledgeable of city ordinances and community quality of life issues
- Making informed choices about housing and roommates
- Gaining proficiency in problem solving when landlord and roommate difficulties arise
- Understanding personal safety and responsibility

For many students, transitioning into off-campus housing is as much a part of their college experience as first moving into the residence halls. For graduate and professional students, living in graduate housing like Baity Hill or in the community (Chapel Hill, Carrboro, or beyond) during their entire time at Carolina fits with their place in life and needs as a post-college adult. But, there can be significant challenges when leaving the intentional structure of an on-campus living environment. We are here to help students navigate their way as successful neighbors in our greater Chapel Hill–Carrboro community. We advocate for and educate toward the development of students as knowledgeable, active, and responsible community citizens. Students living off campus and in the community have rights and responsibilities associated with their pursuit of an enjoyable and safe living experience. We provide services and educational opportunities to promote the understanding of these rights and responsibilities throughout the off-campus student population.

Fraternity and Sorority Life

3103 FPG Student Union, CB# 5210
(919) 962-8298
unc_fsl (Instagram)
http://fsl.unc.edu (Web)
twitter.com/uncgreeks (http://twitter.com/uncgreeks/) (Web)
fsl@unc.edu (email)

Fraternity and Sorority Life (https://ofslci.unc.edu/) provides services, programs, and assistance to the 51 organizations that make up the Chapel Hill Greek community. The office's mission is to enhance the academic experience, holistic development, and civic contribution of students by providing effective services and developmental opportunities that enrich the Carolina experience. Fraternity and Sorority Life advocates for the fraternal movement by educating, advising, and empowering fraternities and sororities and their members to live according to their organizational values and contribute to the University and greater community.

Information Technology Services

Web: its.unc.edu (http://its.unc.edu)
Telephone: (919) 962-HELP (4357)
T: 711 NC RELAY

Information Technology Services (ITS) leads UNC–Chapel Hill in planning, implementing and maintaining the University's technology services. The ITS staff is dedicated to delivering reliable, secure and satisfying information technology solutions and experiences to the University community.

For more information on free software, computer setups, and other tech services, visit its.unc.edu/get-started (https://its.unc.edu/get-started/). To keep up with ITS throughout the year, follow @UNCTarHeelTech on Instagram, Threads, and X (formerly Twitter).

Tech Tools

ITS provides UNC students with tech for both work and play. Here are the top free tech tools from ITS:

- Adobe Creative Cloud. Visit adobe.unc.edu (https://adobe.unc.edu) to request a free license to get started with digitial imaging, video and audio editing, and more.
- Microsoft Copilot with Data Protection. Copilot is an enterprise level generative AI tool. Visit copilot. (https://copilot.microsoft.com)microsoft.com (https://copilot.microsoft.com) and sign in with a UNC email address to get started.
- LinkedIn Learning. From public speaking to prompt engineering to Photoshop, LinkedIn Learning has it all. Sign up at go.unc.edu/(https://go.unc.edu/linkedin/)linkedin for free access.
- Web hosting. Make a WordPress website for class, a club or just for fun at tarheels.live (https://tarheels.live/).
- And more! Visit software.unc.edu (https://software.unc.edu) to see what else ITS offers.

Adobe Creative Cloud

adobe.unc.edu (http://adobe.unc.edu)

UNC–Chapel Hill provides all students and instructional faculty and staff with access to Adobe Creative Cloud at no additional cost to students. Adobe Creative Cloud is a package of creative desktop applications for digital imaging, design, web, and video, plus free stock photos and cloud storage. Popular Adobe Creative Cloud apps include Photoshop, Illustrator, Premiere, Acrobat Pro, and InDesign. New students can activate their license by visiting adobe.unc.edu.

Carolina Computing Initiative

cci.unc.edu (http://cci.unc.edu)

Undergraduate students are required to bring laptops that meet the University's minimum standards for their graduating class. The Carolina Computing Initiative (CCI) ensures that students have access to high-quality computers and exceptional support services. All CCI laptops come with a standard software package, warranty, and protection plans.

CCI laptops are offered at deeper discounts than standard educational pricing, and many students are eligible for laptop grants that cover the entire cost of a CCI laptop package. New students can apply for this need-based financial aid by submitting the College Board CSS/Financial Aid Profile to UNC–Chapel Hill. Purchase your laptop or use your laptop grant at the Tech Shop, the technology division of the UNC Student Stores.

Students who opt not to purchase a CCI machine are still required to bring a laptop that meets the technology requirements specified by the University.

Students with CCI laptops receive on-site tech support, hardware repair, and loaner laptops through the ITS Service Desk. While software and operating system support is available through the ITS Service Desk for non-CCI laptops, the level of support for students who own a CCI laptop is higher. Hardware support and loaner laptops are available on campus for students who own CCI laptops, while for non-CCI laptops, hardware support is the responsibility of the student.

For more information about the advantages of owning a CCI model, visit cci.unc.edu (https://cci.unc.edu).

Printing

UNC–Chapel Hill fee-paying students are given an allotment of pre-paid pages on their One Card for printing each semester. Once the allotted pages have been used, students may purchase additional pages. Visit print.unc.edu (https://print.unc.edu) for a map of 70 campus printing locations and details about mobile and touchless printing.

ITS Service Desk

The ITS Service Desk is the central point of contact for students who need tech help. The Service Desk assists students with hardware and software problems and answers questions about UNC–Chapel Hill technology services. Assistance is free to all students.

Students can contact the Service Desk by calling (919) 962-HELP, visiting help.unc.edu (https://help.unc.edu) to chat or submit a request, or visiting us in person in the Frank Porter Graham Student Union. Hardware repairs for CCI computers are made at the Service Desk. While students' CCI machines are being repaired, the Service Desk may be able to provide students with a loaner laptop.

ResNET: Residential Networking, Education, and Technology

ResNET provides on-campus residents with on-site tech support and education. Residents are served by more than 40 live-in student techs who provide any tech support that residents may need. Throughout the year, ResNET hosts educational events focused on showing new technology on campus. ResNET maintains the Carolina Gaming Arena for campus computer and console gameplay. Find more at resnet.unc.edu (https://resnet.unc.edu) and carolinagaming.unc.edu (https://carolinagaming.unc.edu).

Download CarolinaGO

CarolinaGO, the University's official mobile app, is a collaboration between ITS and student leaders. With CarolinaGO, students can access a mobile version of ConnectCarolina, check dining hours, find bus schedules, check printing availability, and more. Maps also make it easy for new students and families to navigate campus. Search "CarolinaGO" in the App Store or Google Play and download.

The James M. Johnston Center for Undergraduate Excellence

225 Graham Memorial
218 E. Franklin Street
(919) 966-5110

The James M. Johnston Center for Undergraduate Excellence (http://honorscarolina.unc.edu/johnston-center/) is a "democracy of learning" open to students, faculty, alumni, and visitors from all corners of the Carolina campus and beyond. The mission is to encourage undergraduates' active engagement with research, scholarship, and artistic endeavor; to promote innovative teaching; and to provide a social setting in which students can engage in thoughtful discussions with professors and classmates.

The Johnston Center houses Honors Carolina (http://honorscarolina.unc.edu/), the Office of Burch Programs (http://honorscarolina.unc.edu/fellowships/burch-fellowship/) and Honors Study Abroad (http://honorscarolina.unc.edu/global-honors/), the Office of Distinguished Scholarships (http://honorscarolina.unc.edu/ods/), the Office for Undergraduate Research (http://honorscarolina.unc.edu/research/), the Robertson Scholars Program (https://robertsonscholars.org/), and the Beasley Multimedia Center.

The Johnston Center's student-faculty advisory committee advises its director on all aspects of programming and planning.

LGBTQ Center

Student Academic Services Building South, Third Floor, Suite 3308
385 Manning Drive
(919) 843-5376
lgbtq@unc.edu

The Lesbian, Gay, Bisexual, Transgender, and Queer (LGBTQ) Center (https://lgbtq.unc.edu/) works to foster a welcoming and inclusive environment for UNC–Chapel Hill community members of all sexual orientations, gender identities, and gender expressions. The LGBTQ Center offers educational training programs such as Safe Zone, student social groups such as Club Soda, student leadership programs such as the Ambassador's and direct support and advocacy to students, staff, and faculty.

New Student and Family Programs

Student Academic Services Building South, Suite 3318
(919) 962-8304
newstudents@unc.edu

New Student & Family Programs (NSFP) (https://nsfp.unc.edu/) provides new undergraduate students the information and activities needed to transition smoothly to the University of North Carolina at Chapel Hill, and promotes an ongoing relationship between the families of undergraduate students and the University in support of their students' success.

To fulfill this mission, NSFP provides transition programs and services, communications for new students and families, and student leadership opportunities.

First-year and transfer students (and their families) attend New Student and Family Orientation prior to their first semester. The transition process continues when students arrive and participate in Weeks of Welcome.

NSFP's family programming includes Carolina Family Weekend, the Family Football Experience, Spring Family Day, communications through the UNC Family Experience portal, and family engagement opportunities, including the Carolina Parents Council and High Fives for Heels.

NSFP provides paid student leadership opportunities across four student teams, including Orientation Leaders, the WOW Board, Project Coordinators, and Undergraduate Fellows.

Student Affairs

Henry Owl Building
230 East Cameron Avenue
(919) 966-4045
studentaffairs@unc.edu

Student Affairs (https://studentaffairs.unc.edu) fosters the learning and development, health and well-being, campus and community engagement, and sense of belonging of our more than 31,000 undergraduate, graduate, and professional students at Carolina. Our resources and programs are designed to support students' retention, persistence, and success, helping them become responsible citizens and leaders on our campus, as well as in our local and global communities. Student Affairs comprises 18 departments and employs more than 300 full- and part-time staff and more than 1,300 students in myriad roles.

Student Affairs provides resources, programs, and services that facilitate students' learning beyond the classroom. We believe in a holistic approach to student development and aim to interconnect students' academic experiences with leadership, civic engagement, career readiness, innovation, and service learning, and other opportunities that are hallmarks of a UNC–Chapel Hill education. We promote welcoming, respectful, and intentionally inviting environments that elevate the well-being of individuals and our community and seek to extend our Carolina culture of compassion and care, on campus and beyond.

Student Dining Services

Carolina Dining Services
(800) UNC-MEAL
36 Lenoir Drive, Chapel Hill, N.C. 27599

Carolina Dining Services (https://dining.unc.edu/) offers several meal plans that offer the convenience and value of purchasing meals on campus ahead of time. Meal purchases can be made with the UNC One Card using a meal plan, Dining Flex, à la carte, expense, or cash. To find out more about acquiring a UNC One Card, visit the One Card Office website (https://onecard.unc.edu/) or the UNC One Card office on the third floor of UNC Student Stores.

Students can use their meal plans at several of the campus all-you-care-to-eat dining facilities, as well as at retail locations, food trucks, for on-campus delivery, and more. On North Campus, Top of Lenoir is an award-winning facility with an array of menu choices. On South Campus, the Rams Head Dining Hall is a 30,000 square foot state-of-the-art facility that includes several restaurants and all-you-care-to-eat venues.

Student Government

The by-laws of the Board of Trustees of the University invest in the chancellor of the University "the duty . . . to exercise full authority in the regulation of student conduct and in matters of student discipline." At the same time the chancellor has delegated authority to exercise disciplinary and administrative functions in student life to agencies of student government. Within the context of this delegated authority and responsibility, the student body at the University has been self-governing for decades.

Student government at Carolina is more than 100 years old, and hundreds of students are involved in the various branches every year. From serving on the Board of Trustees to the appropriation, oversight, and authority of student fees, from instituting governmental service to enforcing the Honor Code, student government affects the life of every student every day.

The entire framework of student government's activities rests on its ability to maintain the foundation of administrator-student relations. The University should serve as an advisor, not as a supervisor, to the student body. To enjoy this freedom, students at Carolina must be willing to take a certain amount of responsibility to develop their own community and

community values. Student government serves to maintain this freedom and the advisory, not supervisory, relationship.

In 1876 the Honor System officially ended all vestiges of the monitorial system; in 1904 a judicial body, the University Council, was established; in 1938 the Student Legislature was established; and in 1946 a written constitution was approved. In 1968 the coeducational Honor Court was formed out of the Men's Court and Women's Court to hear all Honor Code cases. The *Instrument of Student Judicial Governance* was ratified and put into operation in 1974, was significantly revised in 2003, and then amended in 2015 and 2017.

Student government at UNC—Chapel Hill approximates the federal system of government with its three branches: an executive branch, a legislative branch, and a judicial branch.

The Executive Branch of Student Government

This group (http://execbranch.unc.edu/) serves as the official voice of the student body to the University and broader community, including the town of Chapel Hill and the state of North Carolina. Heading the executive branch is the student body president, assisted by the vice president, the president of the Graduate and Professional Student Government, student body treasurer, student body secretary, the chief of staff, and the senior advisor. As determined by and reflective of the needs of the student body, the president structures his/her cabinet and committees and makes appointments to a wide range of University committees that address those needs and other concerns as they arise during the year. These committees usually include hardship parking, elections board, University services, information technology, student life, minority affairs, first-year focus council, and public service.

Legislative Branch

Student Congress is unicameral, consisting of 41 representatives elected by the student body, with the student body president and the student body treasurer serving as nonvoting ex officio members. The speaker of the Student Congress is elected from among the 41 representatives. Graduate and professional students and on- and off-campus undergraduates are proportionally represented in the Congress.

Student Congress handles considerable legislation and, as one of its primary responsibilities, oversees the student activity fees budget and other student fee areas. Established by student and University committees before approval by the Board of Trustees, a predetermined amount of the fees paid by each student provides the source of funds for Student Congress's annual allocation and subsequent appropriations budgets. These funds are allocated to petitioning student organizations that have received official University recognition. The student body can petition for changes in the student activities fee at any time.

Student Congress representatives are elected in the spring for one-year terms, and each member serves on one of three standing committees: finance, rules and judiciary, and student affairs. A fourth committee, ethics, is composed of senior members of the Congress.

Judicial Branch

There are two major areas that comprise the judicial branch; the first is responsible for the *Instrument of Student Judicial Governance*, and the second is responsible for resolving issues related to the Student Code (https://senate.unc.edu/wp-content/uploads/sites/14573/2022/06/USG-Student-Code-06.15.22.pdf).

The Honor Court hears all cases involving potential violations of the Honor Code. There are separate courts for undergraduate students, graduate students, and students in the Schools of Law, Medicine, Dentistry, Pharmacy, and Business. The Honor Court is organized as follows:

- Office of the Student Attorneys General: The appropriate (undergraduate or graduate) student attorney general investigates all potential violations of the Honor Code. Staff members also present cases to the Honor Court and assist students accused of violating the Honor Code.
- University Hearings Board: These boards are made up of faculty, staff, and students. The University Hearings Board generally hears appeals of Honor Court cases.
- Students interested in serving on the Honor Court or the student attorney general's staff should contact the Honor System Office at (919) 966-4084 for information about how to apply.
- Student Supreme Court: This court adjudicates all issues of student constitutional law to be decided under the Student Code. This body most closely fills the traditional judicial branch of government and consists largely of students with previous experience in student government, mediation, and/or law.

For Graduate Students

The Graduate and Professional Student Government (GPSG) (http://gpsf.unc.edu), the official representative of graduate and professional students at the University, is organized based on school, departmental, and curricula organizations. The GPSG provides communication between graduate and professional students, represents graduate and professional students both within and outside the University community, and provides structures capable of dealing with ongoing issues and concerns. It also allocates and administers the funds appropriated to it from student fees. Every duly enrolled graduate and professional student is automatically a member of the GPSG.

Transportation and Parking

Public Safety Building at 285 Manning Drive (via Paul Hardin Drive)
(919) 962-3951
Weekdays 7:30 a.m. to 5 p.m.

Transportation and Parking (https://move.unc.edu/) is an essential part of the University and is responsible for coordinating all traffic, parking, and transportation around campus.

Parking

Students at UNC—Chapel Hill who park an automobile on weekdays in University parking areas are required to obtain a parking permit. Students, excluding first years, may apply for parking permits during online registration (https://move.unc.edu/parking/student-parking/). Transportation and Parking uses virtual permits for parking on campus.

Weeknight parking is in effect Monday evenings through Friday mornings from 5 p.m. to 7:30 a.m. Student fees cover the annual permit cost (excluding first-year students). Daytime permits are honored during weeknight parking and no further action is required. Students without a daytime permit must register their license plate online (https://move.unc.edu/parking/weeknight-parking/) to receive weeknight parking access for the academic year.

Parking permit holders must park only in specific zones as indicated on their permit assignment. Please note the signs at the entrances to each lot which detail the hours of enforcement for that parking area.

Accessibility Accommodations

Students who have mobility limitations that require transportation accommodations must apply through the Transportation and Parking Accommodations Committee (https://move.unc.edu/parking/accessibility/tpac/). In accordance with the Ordinance Regulating Traffic and Parking at the University of North Carolina at Chapel Hill (https://move.unc.edu/about/publications/parking-ordinance/), students are required to apply for and purchase the appropriate permit to park in the spaces reserved for mobility-impaired employees and students.

Vehicles found parked illegally may be cited by Transportation and Parking and subsequent violations may result in further citations, immobilization ("booting"), or towing of the vehicle. Citations may be appealed through the Transportation and Parking Appeals Office within 10 calendar days upon receipt of the citation. Citations can be appealed in person during office hours Monday through Friday from 7:30 a.m. to 5 p.m., online (https://move.unc.edu/account/) or by mail.

Commuter Alternative Program

The Commuter Alternative Program (https://move.unc.edu/cap/) (CAP) is designed to reward University employees and students for the use of alternative transportation (bicycling, walking, transit, or ridesharing) as their primary commute to campus. CAP is only available to off-campus students who do not have an on-campus daytime parking permit. CAP offers prizes, discounts from local merchants, and other benefits to members.

Local and Regional Transit

The University and the towns of Chapel Hill and Carrboro work together to provide the fare-free Chapel Hill Transit (http://www.townofchapelhill.org/town-hall/departments-services/transit/) system. No bus pass is needed when boarding a Chapel Hill Transit bus, and anyone can ride. Campus U and RU (Reverse U) routes run in continuous loops from 7 a.m. to 8 p.m., serving nearly every area on campus.

Commuting students can use any of the Park and Ride lots served by Chapel Hill Transit. All Park and Ride lots require a permit, which may be purchased through Transportation and Parking (https://move.unc.edu/transit/park-ride/) or through the Town of Chapel Hill (http://www.townofchapelhill.org/prlots/). In the case of an emergency, the University's P2P Emergency Ride Back (https://move.unc.edu/p2p/on-demand/) service is available to provide transportation to the Park and Ride lots or any location within Carrboro or Chapel Hill municipal boundaries.

Regional transit to the Raleigh-Durham International Airport (RDU), Raleigh, Durham, Hillsborough and other nearby cities is available through GoTriangle. Bus service to Alamance, and Guilford counties is also available, and all regional transit agencies provide free Park and Ride (http://move.unc.edu/transit/) lots. Get transit directions using Google Maps (https://transit.google.com) and see buses in real-time online (http://triangle.transloc.com/) or by downloading the TransLoc app. For more route information, call GoTriangle at (919) 485-RIDE or visit the GoTriangle website (https://gotriangle.org/).

Point-to-Point

Point-to-Point (http://move.unc.edu/p2p/) (P2P) offers fare-free, fixed-route service aboard the P2P Express buses, operating on a continuous loop around campus during evening hours, 7 p.m. until 4 a.m., seven nights a week when residence halls are open during fall, spring and summer semesters. Students must show their UNC One Card to board the P2P Express. After dark, on-demand services can be requested by students in areas that are not served by the P2P Express route. P2P also offers fare-free, on-demand transportation service to students with accessibility needs and students going to or from Campus Health 24 hours a day. It also offers additional services including the fixed-route P2P Shuttle serving Baity Hill, an airport shuttle to RDU for select school breaks, and more. On-demand services can be requested with the TransLoc app.

Safe Ride

Safe Ride (https://www.townofchapelhill.org/government/departments-services/transit/safe-ride-program/), operated by Chapel Hill Transit (http://chtransit.org), aims to provide increased mobility between 11 p.m. and 2:30 a.m. There are three Safe Ride bus routes operating on Thursday, Friday, and Saturday nights when the University is in session. They provide service between campus and many private student housing developments, as well as other off-campus destinations.

Bicycle Registration

Bicycle registration is required for bicycles on campus. The program serves as a deterrent to crime, aids in the identification of lost or stolen bicycles, and enables the University to plan for improved bicycle parking facilities around campus in the future. All students who register their bikes will receive a 50% off coupon for a U-lock from UNC Student Stores. Bicycle registration can be done online (http://move.unc.edu/bike/) or in person at the Public Safety Building. Cyclists who live off campus may join the Commuter Alternative Program.

Tar Heel Bikes

The University partners with Spin to provide the Tar Heel Bikes bikeshare program (https://move.unc.edu/bike/bikeshare/) for the Carolina community. A fleet of 100 electric assist bikes is located at bikeshare hubs across campus. These e-bikes are available for use by students, employees, and visitors, and provide a convenient and cost-effective way to get around campus and designated areas throughout Chapel Hill and Carrboro.

Share The Ride NC Rideshare Matching

Share The Ride NC (http://unc.sharetheridenc.org/) is an easy way to quickly and securely find a carpool partner. The private UNC–Chapel Hill Share The Ride NC community allows you to find friends, classmates, and coworkers going the same way you are. Share The Ride NC helps you offer or request rides for commutes, road trips and popular events. Riders choose the meeting location, days, and times they want to carpool.

Zipcar

Zipcar (http://www.zipcar.com/unc/) is a convenient car sharing service that allows students and employees to access a vehicle on demand by the hour or day. Cars are located throughout campus and can be reserved online or by phone 24 hours a day, seven days a week.

For More Information

Concerns may be addressed at the following campus telephone numbers:

- General Information (919) 962-3951
- Parking Control (919) 962-8006
- Accounts Receivable (919) 962-3097
- Parking Appeals (919) 962-3953
- Point-to-Point Shuttle Dispatcher (919) 962-7867 (962-"P-TO-P")

Students with temporary mobility limitations or other hardships requiring special consideration should contact Accessibility Resources and

Service (https://ars.unc.edu/) for complete information on transportation options.

RESOURCES: CAREER PLANNING

University Career Services

219 Hanes Hall
150 E. Cameron Avenue
(919) 962-6507
ucs@unc.edu

The mission of University Career Services (http://careers.unc.edu) (UCS) is to support the mission of the University and Student Affairs by providing personalized and innovative career education to empower student success and transformation.

Our vision is for all UNC–Chapel Hill students to create lives of purpose and prosperity in alignment with their personal goals. To that end, we partner with various campus stakeholders to provide outreach and equitable access to our services and resources. All of our strategic priorities are aligned with the Division of Student Affairs (https://studentaffairs.unc.edu/about-us/mission-and-vision/strategic-priorities/) and Carolina Next (https://carolinanext.unc.edu/initiatives/) which spell out expectations for building community, strengthening student success, enabling career development, and fostering discovery.

USC services for both undergraduate and graduate students include workshops, one-one-one career coaching meetings, full- and part-time job and internship opportunities online (Handshake (https://careers.unc.edu/students/resources/handshake/)); major and career assessments; and many print and electronic resources. Our programs include career panels and fairs, industry nights, and pre-graduate and law school exploration programs.

Services are limited to enrolled students in a UNC–Chapel Hill degree program and alumni for six months after graduation. Students in law, dentistry, and medicine and students enrolled in the M.B.A. and M.A.C. programs are served by career services in their departments, rather than by UCS.

RESOURCES: HEALTH AND WELLNESS

Equal Opportunity and Compliance

Equal Opportunity and Compliance (EOC) (https://eoc.unc.edu) assists the University community with disability, pregnancy, and religious accommodation requests, including auxiliary aids and services. EOC also offers training and consulting services to address any questions or accessibility needs. EOC works with all students including undergraduate and graduate students, full-time and part-time students, students following continuing education courses or who may be auditing, and program applicants. Prospective and existing students are invited to connect with EOC through the submission of an accommodation request form (https://unc.az1.qualtrics.com/jfe/form/SV_8ChSrWMwoqPmUSO/) and documentation.

The EOC Student Accommodations Team is located in Suite 2126 in the Student Academic Services Building North. Office hours are 8 a.m. to 5 p.m., Monday through Friday. ARS staff can be contacted by email at accommodations@unc.edu or telephone at (919) 962-8300 (V) (TTY-711 [NC RELAY]). More information is available on the EOC website (https://catalog.unc.edu/resources/health-wellness/https//eoc.unc.edu).

Campus Health Services

Campus Health Services (http://campushealth.unc.edu) (CHS), located next to Kenan Stadium in the James A. Taylor Building, provides a broad range of health care services including primary care, orthopedics, obstetrics and gynecology, nutrition services, dermatology, travel information and immunization, and allergy management. For convenience, in-house laboratory, radiology, pharmacy, and physical therapy services also are available. CHS also provides counseling and psychological services; please see the Counseling and Psychological Services section for greater detail about services offered.

Eligibility

Any student or postdoctoral fellow who has paid the campus health fee (https://campushealth.unc.edu/charges-insurance/campus-health-fee-charges-and-payments/) for the current semester or summer session is eligible for health care at CHS. Spouses of full-time students and postdoctoral fellows can receive care at CHS.

Health Fee

Currently, the fee covers the cost of most professional services (there is no charge for office visits) provided by CHS physicians, nurse practitioners, physician's assistants, nurses, physical therapists, and registered dieticians. The health fee also provides reduced charges for prescription drugs, miscellaneous supplies, laboratory tests, X-rays, medical procedures, and specialty services. Spouses of students are eligible to receive the same services as students by paying the campus health fee at CHS and demonstrating appropriate insurance coverage.

Hours

Hours of operation vary according to the academic calendar. Hours of operation during the academic year are 8:00 a.m. to 6:00 p.m. Monday through Friday. Students are typically seen on an appointment basis from 8:00 a.m. to 5:00 p.m. Acute care services are provided between 8:00 p.m. and 6:00 p.m. Monday through Friday and from 8:00 a.m. to 5:00 p.m. on Saturday and Sunday during the fall and spring semesters. Weekend acute care services are considered premium services and there is an associated visit charge. Hours of operation in the summer are 8:00 a.m. to 5:00 p.m. Monday through Friday. If CHS is closed, students have access to a nurse advice line through UNC Healthlink, and there is always a CHS physician on call. Call (919) 966-2281 to verify hours of operation, schedule an appointment, or to speak with the Healthlink nurse when CHS is closed.

Immunizations

North Carolina law mandates that all new students at the University document the completion of immunization requirements (https://campushealth.unc.edu/services/immunizations/). Failure to comply may result in cancellation of registration 30 days after classes begin. Vaccines are offered at Campus Health Services at reasonable rates for students who need to complete their immunization requirement.

Mandatory Health Insurance

The University requires proof of health insurance (https://campushealth.unc.edu/charges-insurance/mandatory-student-health-insurance-hard-waiver-process/) as a condition of enrollment. The University offers a group health insurance plan, including major medical benefits to single and married students, their spouses/partners, and children.

Campus Recreation

Campus Recreation (https://campusrec.unc.edu/) offers amenities for all fitness and recreation wants, needs, and desires of the UNC population. It provides a diverse and intentional recreational program in a safe, inclusive, and accessible environment which enhances the social, mental, and physical well-being of the entire University community. Campus Recreation enjoys a unique dual reporting relationship with the Department of Exercise and Sport Science (EXSS) and its rich history and commitment to a healthy and active lifestyle, and with the Division of Student Affairs (https://studentaffairs.unc.edu/), which represents the Carolina spirit of student development and living outside the classroom.

Facilities

Campus Recreation offers a variety of facilities (https://campusrec.unc.edu/facilities/) to satisfy the wants and needs of all UNC students, faculty members, and staff. The two fitness centers, the Student Recreation Center and Rams Head Recreation Center, offer cardiovascular and weight training equipment, as well as an indoor track, locker rooms, and group fitness studios. Basketball, squash, and racquetball courts, along with equipment for check-out, can be found throughout Fetzer Hall and Woollen Gym. These facilities also feature a cycle studio, climbing walls, and multipurpose rooms that can function for practice and instruction of a variety of fitness types. Both an indoor and an outdoor pool are located near the heart of campus. North and South Campus feature recreation complexes and fields for playing basketball, volleyball, tennis, and any other sport. The Outdoor Education Center, located off Country Club Road, is also a great facility for experiencing how recreation and the outdoors can go hand-in-hand.

Intramural Sports

Intramural Sports (https://campusrec.unc.edu/programs/intramuralsports/) offers opportunities for students to compete against their peers in a friendly and structured environment.

Sport Clubs

A sport club (https://campusrec.unc.edu/programs/sport-clubs/sport-clubs-directory/) is a University-recognized student organization formed by individuals with a common interest in a sport. Its primary goal is

to promote and develop interest in a particular sport and recruit new members. Clubs may be instructional, recreational, and/or competitive.

Fitness and Wellness

Fitness and Wellness (https://campusrec.unc.edu/programs/fitness/) is housed in the Student Recreation Center (SRC) and Rams Head Recreation Center (RHRC). Both facilities offer a wide variety of cardiovascular equipment, including many stationary bikes, stair climbers, treadmills, and cross-trainers/elliptical machines.

Over the years, Fitness and Counseling and Wellness Services (of Campus Health Services) have teamed together to enhance student wellness through greater collaborative programming, such as Powerfully Pink (a breast cancer awareness program), Women's Health and Fitness Day, the Farmer's Market, Fit Wellness into Your Day, and the Get Fit from Head to Heel Challenge.

Counseling and Psychological Services

Counseling and Psychological Services (https://caps.unc.edu/) (CAPS), a department of Campus Health Services, is located on the third floor of the James A. Taylor Building.

The CAPS staff is strongly committed to addressing the mental health needs of a diverse student body through timely access to consultation and connection to clinically appropriate services. CAPS affirms that people of every background are to be treated with respect and dignity. The professional ethics and standards of the multidisciplinary staff at CAPS set a framework for understanding how facets of identity (e.g., gender, ethnicity, race, sexual orientation, gender identity/expression, age, physical and mental abilities, religious beliefs, and socioeconomic background) impact life experience. The CAPS approach to mental health integrates physical, emotional, academic, spiritual, social, and cultural well-being. Counseling and Psychological Services include individual, couples, and group therapy, urgent consultation and crisis intervention, and medication evaluation/management. The CAPS staff consists of licensed psychologists, psychiatrists, clinical social workers, psychology practicum students, interns, and administrative support personnel.

Counseling and Psychological Services can be reached Monday through Friday from 8:00 a.m. to 5:00 p.m. at (919) 966-3658. CAPS invites initial evaluations without an appointment Monday through Friday from 9:00 a.m. to noon and 1:00 p.m. to 4:00 p.m. Students who have a psychological crisis should call (919) 966-3658 immediately. If the crisis occurs after hours, call Campus Health Services at (919) 966-2281.

Student Wellness Services

Student Wellness Services (http://studentwellness.unc.edu) seeks to enhance the individual and collective health of the community through a wide range of programs, services, and resources. Through partnerships with other campus departments, community agencies, student organizations, and peer mentors, we work to develop and advocate for a campus and community environment that creates, emphasizes, and supports healthy choices and positive decision making regarding health, safety, and wellness.

Student Wellness promotes wellness as a journey rather than an outcome and believes that students' health choices, as well as the culture of the community around them, involve a dynamic and multifaceted integration of eight dimensions of wellness: physical, emotional, spiritual, social, cultural, environmental, intellectual, and financial. Using these dimensions, Student Wellness provides integrative programs and services related to a variety of health topic areas, including healthy relationships and sexual health; stress management; sleep hygiene; alcohol and other substance education, interventions, and recovery supports; and violence prevention.

Student Wellness provides these programs and services on an individual, group, and larger campus community level.

The office, located in Suite 1310 of the Student Academic Services Building (SASB) North, can be reached Monday through Friday from 9:00 a.m. to 5:00 p.m. at (919) 962-9355.

RESOURCES: SERVICE AND LEADERSHIP

Campus Y

The Campus Y (https://campusy.unc.edu/) is an extraordinarily vibrant, student-driven organization, promoting social justice and social innovation locally, nationally, and internationally. Over more than a century and a half of service, it has incubated such essential campus institutions as Student Stores, Career Services, Intramural Athletics, and New Student Orientation. It has also provided the incubation space and resources for launching fully independent nonprofit organizations such as Nourish International, the Student Environmental Action Coalition, and the Student Coalition for Action in Literacy Education. Over the course of a typical year, approximately 2,000 UNC–Chapel Hill students channel their idealism, passion, and sweat equity into a diverse array of service and advocacy initiatives, including but not limited to public health, youth development, education, human rights, micro-finance, food security, and environmental advocacy. The Campus Y is led by the student executive board and the chairs of more than 30 committees and is supported by a professional staff of six employees. Students are encouraged to visit the Campus Y offices in the YMCA Building, adjacent to South Building, to learn about these opportunities and campus, community, youth, and global social justice issues.

Carolina Center for Public Service

Overview

The Carolina Center for Public Service (https://ccps.unc.edu/) (CCPS) engages and supports the faculty, students and staff of UNC–Chapel Hill in meeting the needs of North Carolina and beyond. The center strengthens the University's public service commitment by promoting scholarship and service that are responsive to the concerns of the state and contribute to the common good.

How to Get Involved

APPLES Service-Learning is a student-led program that transforms educational experiences by connecting academic learning and public service. As part of APPLES students can:

- sign up for the Service-Learning Initiative (SLI) to learn more about local organizations and how to get involved in service. SLI: Launch is available for incoming first-year students in the fall and SLI: Engage is an opportunity for any other Carolina student to get involved in the spring.
- register for an APPLES Service-Learning course on Connect Carolina to complete 30 hours of service as part of an academic course. This might also fulfill the Experiential Education/High-Impact Experience requirement.
- apply for a spring or summer internship to gain valuable professional experience while receiving a stipend and academic course credit
- explore communities beyond Chapel Hill on an alternative spring break trip or expedition and serve alongside a team of peers
- implement a project with a social innovation fellowship. Fellows receive funding, mentorship, and academic credit to help ideas come to life.

For any inquiries about APPLES, email apples@unc.edu. (apples@unc.edu)

The Buckley Public Service Scholars (BPSS) program provides a framework for Carolina undergraduate students committed to making a positive impact through service. Students can register for the BPSS program at the beginning of the fall and spring semesters by visiting the website (https://ccps.unc.edu/bpss/). BPSS strengthens the culture of service and engagement at Carolina by:

- challenging students to increase the breadth and depth of their involvement in North Carolina communities and beyond
- fostering connections between the University, its students and the community
- promoting student participation in varying dimensions of public service: direct, organizational, and policy
- developing students' capacity for engaging in their communities in meaningful ways

For any inquiries about BPSS, email bpss@unc.edu. (bpss@unc.edu)

The center offers various competitive opportunities for undergraduate and graduate students to further their involvement in public service and community engagement, including:

- Community Engaged Fellowships for returning graduate and professional students
- Community Service Scholarships for undergraduate students
- Projects for Peace for undergraduate students
- MacDonald Community Fellowships for undergraduate students with a strong connection to a community partner

For any inquires, contact ccps@unc.edu.

To stay informed about the many different public service opportunities at Carolina, inquire about the center's biweekly Public Service News listserv at ccps@unc.edu.

POLICIES AND PROCEDURES

The policies, procedures and standards of the University of North Carolina at Chapel Hill (https://www.unc.edu/) are maintained by the University (https://universitypolicy.unc.edu/)Policy Office with the exception of academic policies governed by University faculty via The Faculty Code of University Government. Many of the University policies relevant to students are referenced in this catalog and linked to the policy repository containing the most recent version of official policies. Academic policies related to the education activities of the University and the awarding of degrees are found throughout the catalog. The academic policies and procedures in this section include information about course credit; registration and enrollment; attendance, grading, and examination; academic standing; and degree conferral and transcripts.

Regulations and Requirements for Undergraduate Students

Students are responsible for observing the procedures, regulations, and requirements of the University as they are set forth here and in other official University publications. This section describes many of the requirements and regulations that apply to undergraduates, but it is not a complete list of all such regulations and requirements. Unless otherwise stated, the regulations described in this section will govern the academic progress of students from their first year in the General College through their final semester in the College of Arts and Sciences or one of the undergraduate professional schools. The staff of the University will gladly provide students with detailed information concerning their academic program or academic problems, but this does not relieve any student of individual responsibility for meeting the University's requirements and observing University regulations.

Regulations and Requirements for Graduate Students

The *Graduate School Handbook* contains most of the policies and procedures of The Graduate School at the University of North Carolina at Chapel Hill. Students should become familiar with the material pertaining to their degree programs, and, together with their faculty advisors, make certain that the chosen program of study complies with all policies.

If University policies change during the academic year, those changes will appear here.

CREDIT AND EVALUATION

Calculation of Transferred Semesters Based on the Number of Transferred Credit Hours

Several academic procedures, including the determination of academic eligibility, depend on the tally of semesters that students have completed. When credit hours are transferred, a calculation must be made as to the number of semesters the student is regarded as having used up. This calculation is based on the number of credit hours accepted by UNC–Chapel Hill for transfer, not on the number of semesters in which the student was enrolled at other colleges. Excluded from this calculation are transfer hours awarded for courses taken concurrent with high school.

Students are regarded as having used up one semester for every full multiple of 15.0 semester credit hours accepted for transfer. When credits are transferred from a college that operates on the quarter-term system, one quarter-term credit hour equals two-thirds of a semester credit hour.

See "Transfer Candidates" in the "Undergraduate Admissions (https://catalog.unc.edu/admissions/undergraduate/)" section of the *Catalog* for additional information.

The same formula is applied to credit hours that a student earns while enrolled in a part-time program of study at UNC–Chapel Hill, with 90 hours regarded as six semesters and 105 hours regarded as seven semesters. *Note: Hours earned in any UNC–Chapel Hill summer term are not included in this formula.*

The formula also applies to transfer credit hours awarded for any courses taken at other institutions during a fall or spring semester (but not during summer terms) after a student matriculates at UNC–Chapel Hill.

Credit by College Board Advanced Placement, International Baccalaureate, or SAT Subject Examinations

Students who meet UNC–Chapel Hill standards on certain approved College Board Advanced Placement examinations, examinations of the International Baccalaureate Program, certain SAT Subject Tests (e.g., foreign language), and other tests as listed below, may receive academic credit for comparable University coursework. Each year the Office of Undergraduate Admissions publishes (https://admissions.unc.edu/credit/credit/test-and-placement-credit/) the minimum scores necessary for the awarding of course credit (also listed below for AP and IB exams); however, final authority for awarding this placement credit lies with the chair of the department or curriculum in which credit is to be received. Minimum scores for placement may change from year to year. Regulations for credit in the year in which the student began study at UNC–Chapel Hill as a full-time student determine the standards that apply, not the year in which the student took the examination. Such credit will not be contingent upon the completion of further work in the subject unless specified by an academic department.

By-Examination (BE) credit awarded based on a student's scores on the Advanced Placement, International Baccalaureate, SAT Subject Tests, other tests as listed below, or departmental examinations may be used to fulfill General Education requirements. For students admitted as new first-year or transfer students beginning in fall 2009 or later, the following limitations apply to the use of By-Examination (BE) credit in a major or minor:

- No more than two courses (six to eight credit hours) of BE credit may be used as part of the major core.
- No more than one BE credit course (three to four credit hours) may be used as part of a minor.
- No more than five BE credit courses may be used to fulfill the general education Focus Capacities requirements.

Students who wish to enroll in a course for which they have By-Examination credit should discuss their decision with an academic advisor. In the event that a student takes a course for which Advanced Placement, International Baccalaureate, SAT Subject Test, or other tests as listed below, credit is awarded, the By-Examination credit will be forfeited when the course is completed.

Advanced Placement Exam Scores

Exam	Minimum Score	Awarded Credit for the Following Courses	Credit Hours Awarded
African American Studies	3	AAAD General Elective	3
African American Studies	4	AAAD 231	3
Art 2D	4	ARTS 102	3
Art 2D	3	Studio Art General Elective	3
Art 3D	4	ARTS 103	3
Art 3D	3	Studio Art General Elective	3
Art History	3	ARTH 152	3
Art Studio Drawing	3	Studio Art General Elective	3
Art Studio Drawing	4	ARTS 104	3
Biology	3	BIOL 101, BIOL 101L	4
Calculus AB	2	MATH 110P, MATH 129P	0
Calculus AB	3	MATH 110P, MATH 129P, MATH 231	4
Calculus AB Subscore	2	MATH 110P, MATH 129P	0
Calculus AB Subscore	3	MATH 110P, MATH 129P, MATH 231	4
Calculus BC	2	MATH 110P, MATH 129P	0
Calculus BC	3	MATH 110P, MATH 129P, MATH 231, MATH 232	8
Chemistry	3	CHEM 101, CHEM 101L	4

Chemistry	5	CHEM 101, CHEM 101L, CHEM 102, CHEM 102L	8
Chinese	3	CHIN 203 *	4
Comparative Government and Politics	3	Political Science General Elective	3
Comparative Government and Politics	4	POLI 130	3
Computer Science A	3	COMP 101	3
Computer Science A	5	COMP 101, COMP 110	6
Economics - Either Micro or Macro	3	Economics General Elective	3
Economics - Either Micro or Macro	4	ECON 100	3
Economics - Both Micro and Macro	4	ECON 100, ECON 101	7
English Language and Composition	3	English General Elective	3
English Language and Composition	4	ENGL 110	3
English Literature	3	English General Elective	3
English Literature	5	ENGL 190	3
Environmental Science	3	Environmental Studies General Elective	3
Environmental Science	4	ENEC 202	4
European History	3	HIST 104	3
French Language and Culture	3	French General Elective and placement into FREN 203	3
French Language and Culture	4	French General Elective, FREN 203, and placement into FREN 204	6
French Language and Culture	5	French General Elective, FREN 203, FREN 204, and placement into FREN 255, FREN 260, or FREN 262	9
Geography (Human)	3	GEOG 120	3
German Language	3	German General Elective and placement into GERM 203 *	3
German Language	4	German General Elective, GERM 203, and placement into GERM 204 *	6
German Language	5	German General Elective, GERM 203, GERM 204, and placement into GERM 301 or GERM 302 *	9
Italian Language and Culture	3	Italian General Elective and placement into ITAL 203	3
Italian Language and Culture	4	Italian General Elective, ITAL 203, and placement into ITAL 204	6
Italian Language and Culture	5	Italian General Elective, ITAL 203, ITAL 204, and placement into ITAL 300	9
Japanese	3	Japanese General Elective *	3
Japanese	4	JAPN 203 *	4
Latin	3	Latin General Elective	3
Latin	4	LATN 203	3
Latin	5	LATN 203, LATN 204	6
Music Theory	3	MUSC 121	3
Music Theory	5	MUSC 121, MUSC 130, MUSC 131	7
Physics 1	3	Physics General Elective	3
Physics 1	4	PHYS 114	4
Physics 2	3	Physics General Elective	3
Physics 2	4	PHYS 115	4
Physics B	3	Physics General Elective	3
Physics B	5	PHYS 114, PHYS 115	8
Physics C E&M	3	Physics General Elective	3
Physics C E&M	4	PHYS 115	4
Physics C Meachnics	3	Physics General Elective	3

Physics C Mechanics	4	PHYS 114	4
Pre-Calculus	3	MATH 110P, MATH 129P	0
Psychology	3	Psychology General Elective	3
Psychology	4	PSYC 101	3
Spanish Language and Culture	3	Spanish General Elective and placement into SPAN 203	3
Spanish Language and Culture	4	Spanish General Elective, SPAN 203, and placement into SPAN 204	6
Spanish Language and Culture	5	Spanish General Elective, SPAN 203, SPAN 204, and placement into SPAN 261	9
Spanish Literature and Culture	3	Spanish General Elective and placement into SPAN 203	3
Spanish Literature and Culture	4	Spanish General Elective, SPAN 203, and placement into SPAN 204	6
Spanish Literature and Culture	5	Spanish General Elective, SPAN 203, SPAN 204, SPAN 261	12
Statistics	3	STOR 151	3
Statistics	4	STOR 155	3
US Government and Politics	3	Political Science General Elective	3
US Government and Politics	4	POLI 100	3
US History	3	HIST 102	3
World History	3	HIST 103	3

* Students who wish to continue Chinese, German, or Japanese at UNC must take a departmental placement exam.

International Baccalaureate Scores

Appropriate credit/placement will be awarded by the end of July for any enrolling student who has sent official scores.

Subject	Minimum Score	Awarded Credit for the Following Courses	Credit Hours Awarded
Art Studio HL	4	ARTS 104	3
Art Studio SL	5	ARTS 104	3
Biology HL	4	BIOL 101, BIOL 101L	4
Biology SL	5	BIOL 101, BIOL 101L	4
Chemistry HL	4	CHEM 101, CHEM 101L	4
Chemistry HL	5	CHEM 101, CHEM 101L, CHEM 102, CHEM 102L	8
Chemistry SL	5	CHEM 101, CHEM 101L	4
Chinese HL	4	CHIN 203 *	4
Chinese SL	5	CHIN 203 *	4
Economics HL	4	ECON 101	4
Economics SL	5	ECON 101	4
English A HL	4	ENGL 191	3
English A SL	5	ENGL 191	3
French A Language and Literature HL/SL	5	FREN 203, FREN 204	6
French A Literature HL/SL	5	FREN 203, FREN 204, FREN 260	9
French B HL	4	FREN 203, FREN 204	6
French B SL	5	FREN 203, FREN 204	6
French ab initio SL	5	French General Elecitve; Placement by exam. (See languageplacement.unc.edu)	3
French ab initio SL	6	French General Elective; Placement into FREN 203	3
Further Mathematics HL	4	MATH 110P, MATH 129P, MATH 231, MATH 232	8
German HL	4	German General Elective	3
German HL	5	GERM 203	3
German HL	6	GERM 203, GERM 204	6
German SL	5	German General Elective	3
German SL	6	GERM 203	3
German SL	7	GERM 203, GERM 204	6
History Americas HL	4	HIST General Elective	3
History HL	4	HIST 103	3
Italian HL	4	ITAL 203, ITAL 204	6

Italian SL	5	ITAL 203, ITAL 204	6
Japanese HL	4	JAPN 203 *	4
Japanese SL	5	JAPN 203 *	4
Latin HL	4	Latin General Elective	3
Latin HL	5	LATN 203	3
Latin HL	6	LATN 203, LATN 204	6
Latin SL	5	Latin General Elective	3
Latin SL	6	LATN 203	3
Latin SL	7	LATN 203, LATN 204	6
Math HL	4	MATH 110P, MATH 129P, MATH 231, MATH 232	8
Math SL	5	MATH 110P, MATH 129P	0
Mathematics Analysis and Approaches HL	4	MATH 110P, MATH 129P, MATH 231, MATH 232	8
Mathematics Analysis and Approaches SL	5	MATH 110P, MATH 129P, MATH 231	4
Mathematics Applications HL	4	MATH 110P, MATH 129P, MATH 231	4
Mathematics Applications SL	5	MATH 110P, MATH 129P	0
Music Comp HL	4	MUSC 141	3
Music Comp SL	5	MUSC 141	3
Philosophy HL	4	Philosophy General Elective	3
Philosophy HL	5	PHIL 101	3
Philosophy SL	5	Philosophy General Elective	3
Physics HL	4	Physics General Elective	3
Physics HL	7	PHYS 114, PHYS 115	8
Physics SL	5	Physics General Elective	3
Psychology HL	4	PSYC 101	3
Psychology SL	5	PSYC 101	3
Spanish A Language and Literature HL/SL	5	SPAN 203, SPAN 204	6
Spanish A Literature HL/SL	5	SPAN 203, SPAN 204, SPAN 261	9
Spanish ab initio SL	5	Spanish General Elective; Placement by exam. (See languageplacemer	3
Spanish ab initio SL	6	Spanish General Elective; Placement into SPAN 203	3
Spanish B HL	4	SPAN 203, SPAN 204	6
Spanish B SL	5	SPAN 203, SPAN 204	6
Visual Arts HL	4	ARTS 104	3
Visual Arts SL	5	Art Studio General Elective	3
World Religion SL	5	RELI 101	3

* Students who wish to continue Chinese or Japanese at UNC must take a departmental placement exam.

Advanced Level General Certificate of Education (A-Level and AS-Level)

Credit is awarded for courses with a grade of E or higher.

British A/AS Level Course	UNC Course Equivalent	Credit Hours Awarded (for a grade of E or higher)
Accounting A Level	BUSI 100	3
Accounting AS Level	Business General Elective	3
Biology A Level	BIOL 101, BIOL 101L, BIOL 103	7
Biology AS Level	BIOL 101, BIOL 101L	4
Chemistry A Level	CHEM 101, CHEM 101L	4
Chemistry AS Level	CHEM 101, CHEM 101L	4
Classics A Level	CLAS 121, CLAS 122	6
Classics AS Level	CLAS 121, CLAS 122	6
Computer Science A Level	COMP 110	3
Divinity A Level	RELI 106	3
Divinity AS Level	Religious Studies General Elective	3
Drama A Level	DRAM 115, DRAM 116, DRAM 120	9
Drama AS Level	Dramatic Arts General Elective	3
Economics A Level	ECON 101	4
Economics AS Level	ECON 101	4
English Literature A Level	ENGL 191	3
English Literature AS Level	ENGL 191	3
French A Level	FREN 203, FREN 204	6
French AS Level	FREN 203	3

Further Mathematics A Level	MATH 110P, MATH 129P, MATH 231, MATH 232	8
Further Mathematics AS Level	MATH 110P, MATH 129P, MATH 231	4
Geography A Level	GEOG 110, GEOG 120	6
Geography AS Level	GEOG 120	3
German A Level	GERM 203, GERM 204	6
German AS Level	GERM 203	3
History A Level	History General Elective	3
History AS Level	History General Elective	3
Mathematics A Level	MATH 110P, MATH 129P, MATH 231	4
Mathematics AS Level	MATH 110P, MATH 129P, MATH 152	3
Physical Education A Level	EXSS 175	3
Physical Education AS Level	Exercise and Sport Science General Elective	3
Physics (B or higher) A Level	PHYS 114, PHYS 115	8
Physics (B or higher) AS Level	PHYS 114, PHYS 115	8
Physics A Level	Physics General Elective	3
Physics AS Level	Physics General Elective	3
Psychology A Level	Psychology General Elective	3
Psychology AS Level	Psychology General Elective	3
Sociology A Level	SOCI 101	3
Sociology AS Level	SOCI 101	3
Spanish A Level	SPAN 203, 204	6
Spanish AS Level	SPAN 203	3
U.S. Government and Politics	POLI 100, 232	6

Cambridge Pre-University (PRE-U)

Credit is awarded for courses with a grade of M3 or higher.

Pre-U Course	UNC Course Equivalent	Credit Hours Awarded
History-Europe	HIST 158	3
Further Mathematics	MATH 110P, MATH 129P, MATH 231, MATH 232	8
Mathematics	MATH 110P, MATH 129P, MATH 231	4
Philosophy and Theology	PHIL 134	3

Caribbean Advanced Proficiency Examinations

Subject	Minimum Score	UNC Credit	Credit Hours Awarded
Biology	IV	BIOL 101, BIOL 101L	4
Caribbean Studies	IV or C	ANTH 130	3
Chemistry	III	CHEM 101, CHEM 101L	4
Physics	III or B	PHYS 114, PHYS 115	8

French Baccalaureate Exam

Credit is awarded for exams with a mark of 10 or higher. Both the French-Written and French-Speaking exam scores must be 10 or higher, and both scores are averaged for a single score. If either score is below 10, even if the average total is 10 or higher, credit will not be awarded.

Exam	UNC Course Equivalent	Credit Hours Awarded
Economics and Social Sciences	ECON 101	4
English	ENGL 191	3
French	FREN 203, FREN 204	6
History and Geography	HIST 140, HIST 152	6
Mathematics	MATH 110P, MATH 129P, MATH 231, MATH 232	8
Philosophy	PHIL 101	3
Science	BIOL 101, BIOL 101L	4
Spanish	SPAN 203, SPAN 204	6

College Level Examination Program (CLEP) Exams

Exam	Minimum Score	Placement into the Following Courses	Credit Hours Awarded
Calculus	50	MATH 231	4
College Algebra	50	MATH 110P	0
French Language II	59	FREN 203 PL	Placement credit for FREN 203; 0 hours awarded
Precalculus	50	MATH 110P, MATH 129P	0
Spanish II	63	SPAN 203 PL	Placement credit for SPAN 203; 0 hours awarded
Spanish with Writing II	65	SPAN 203 PL, SPAN 204 PL	Placement credit for SPAN 203 and SPAN 204

Scottish Qualifications Authority (SQA)

If students take this exam, they will need to submit an official exam score to the Office of Undergraduate Admissions and they will manually award test credit.

SQA Subject	Minimum Score	Awarded Credit for the Following Courses	Credit Hours Awarded
Advanced Higher Physics	A2	PHYS 114, PHYS 115	8

French SAT II

SAT II French with Listening

SAT II Score	Placement into the Following Course	Credit Awarded
350-440	FREN 101	none
450-470	FREN 105	none
480-540	FREN 203	none
550-590	FREN 204	Placement credit for FREN 203, no credit hours awarded
600-690	FREN 255 or FREN 260	FREN 203, FREN 204
700 & above	Placement by department interview	FREN 203, 204

Spanish SAT II

SAT II Spanish and SAT II Spanish with Listening accepted.

SAT II Score	Placement into the Following Course	Credit Awarded
350-440	SPAN 100	none
450-470	SPAN 105	none
480-540	SPAN 203	none
550-590	SPAN 204	Placement credit for SPAN 203, no credit hours awarded
600-690	SPAN 255 or SPAN 261	SPAN 203, SPAN 204
700 & above	Placement by department interview	SPAN 203, SPAN 204

Latin SAT II

SAT II Score	Placement into the Following Course	Credit Awarded
500 & below	LATN 101	none
510-540	LATN 102	none
550-600	LATN 203	none
610-650	LATN 204	LATN 203
660 & above	LATN 221	LATN 203, LATN 204

German SAT II

SAT II German

SAT II Score	Placement into the Following Course	Credit Awarded
450 or below	GERM 101	none
460-500	GERM 102	none
510-550	GERM 203	none
560-640	GERM 204	Placement credit for GERM 203, no credit hours awarded
650 & above	GERM 301 or GERM 303	GERM 203, GERM 204

Chinese SAT II

SAT II Score	Placement into the Following Course	Credit Awarded
650 & above	Placement by department exam. (See languageplacement.unc	CHIN 203

Japanese SAT II

SAT II Score	Placement into the Following Course	Credit Awarded
650 & above	Placement by department exam. (See languageplacement.unc	JAPN 203

Korean SAT II

SAT II Score	Placement into the Following Course	Credit Awarded
650 & above	Placement by department exam. (See languageplacement.unc	KOR 203

Mathematics, ACT

Score	Placement Into Course(s)	Credit Awarded
26 - 28	MATH 130 or MATH 152	MATH 110P
29 and Higher	MATH 231	MATH 110P, MATH 129P

Mathematics, SAT

Score	Placment into Course(s)	Credit Awarded
610 - 670	MATH 130 or MATH 152	MATH 110P
680 - and Higher	MATH 231	MATH 110P, MATH 129P

Mathematics, SAT II

Test	SAT II Score	Placement into the Following Course	Credit Awarded
Math Level 1	590 - 800	MATH 130 or MATH 152	MATH 110P
Math Level 2	570 - 630	MATH 130 or MATH 152	MATH 110P
Math Level 2	640 - 800	MATH 231	MATH 110P, MATH 129P

National Examinations in World Languages (NEWL)

Exam	Score	UNC Credit	Credit Awarded
Portuguese	3	Portuguese General Elective, Placement into PORT 203	3
Portuguese	4	Portuguese General Elective, PORT 203, Placement into PORT 204	6

Portuguese	5	Portuguese General Elective, PORT 203, PORT 204, Placement into PORT 310	9

Mathematics

For further information about placement, see the department's website (https://math.unc.edu/undergraduate/placement-information/) on math placement.

English

Beginning in fall 2012, the English and Comparative Literature department started offering a new foundation course, ENGL 105, which took the place of ENGL 101 and 102. **All students entering in fall 2012 and beyond are required to take this course; there is no exemption through test placement**. For additional information on English placement, please see the department's website (https://englishcomplit.unc.edu/).

Credit by Departmental Examination

Enrolled students who, through individual study or experience, have gained knowledge of the content of undergraduate courses offered by the University may, with the approval of the relevant department and school or college, receive credit (without grade) for such courses by special examination. The student must receive the approval of the department and college/school at least 30 days before the examination is taken, and the examination must be taken before the beginning of the last semester or full summer session before the student's graduation.

Policy on Credit for Internships — The College of Arts and Sciences

No internship automatically earns academic credit. Students who want academic credit for an internship should contact the director of undergraduate studies in a relevant academic department or curriculum (https://catalog.unc.edu/undergraduate/academic-enrichment/internships/) before beginning the internship and must complete an internship course in that academic unit. Not all departments and curricula offer internship courses.

Internships may not be used to meet the high impact (HI) or experiential education (EE) Gen Ed requirements unless the student earns academic credit for the internship through a department or curriculum. A student must enroll in a course that has been approved as meeting the High Impact or EE requirement in order for an internship to fulfill that requirement.

Students who must earn academic credit as a condition of doing the internship—and who cannot get credit through an academic department or curriculum—should contact a counselor at University Career Services for possible credit in SPCL 493 before beginning the internship. The student must write a statement describing his or her learning objectives and a paper reflecting on the experience. SPCL 493 is a one-credit, Pass/Fail course that does not count toward any graduation requirements.

Modes of Instruction (College of Arts and Sciences)

The University provides five (5) modes of instruction for undergraduate courses. These include four (4) modes that incorporate remote elements. Since the student learning outcomes are consistent across instruction modes, a course fulfills the same degree requirements regardless of the instruction mode.

Course Delivery Options

Individual classes may have unique characteristics that do not align exactly with the course's mode; however, the following descriptions of each mode provide an overview of the instructional format.

In Person (IP)

- Students are expected to attend all scheduled course meetings and exam times (including the final exam) in person throughout the semester.
- In some courses, selected content may be delivered remotely, and selected course meetings may be remote.

In Person and Remote (IR)

- Students are expected to attend all scheduled course meetings and exam times throughout the semester. The course will have regular synchronous sessions where some students are in person and some students are remote.
- Many students will attend class in person and may be asked to take exams (including the final exam) in person.
- Remote attendance options will be available for some students, and some students may be able to complete the entire class remotely.
- The amount of available remote participation may vary by course. In some courses, selected content may be delivered remotely to all students, and selected course meetings may be remote for all students.

Remote Synchronous (RS)

- All instruction will be remote.
- Students are expected to attend all scheduled course meetings and exam times (including the final exam) via Zoom, Teams, or a similar platform.
- No in-person attendance will be required.

Remote Mostly Asynchronous (RM)

- All instruction will be remote.
- Students will be expected to attend selected scheduled course meetings and exam times (including the final exam) via Zoom, Teams, or a similar platform.
- Synchronous session attendance requirements will be detailed in Class Features before the start of the term.
- Most class sessions, activities, and/or exams will be asynchronous and self-paced within defined timeframes; students will be expected to meet deadlines throughout the semester.
- No in-person attendance will be required.

Remote Asynchronous (RA)

- All instruction will be remote.
- All class sessions, activities, and/or exams (including the final exam) will be asynchronous and self-paced within defined timeframes; students will be expected to meet deadlines throughout the semester.
- No in-person or synchronous session attendance will be required.

The College of Arts and Sciences is committed to providing in-person, residential instruction as the primary experience for undergraduate students. However, there are some specific situations when remote student learning may be beneficial or necessary. The college dean, in consultation with the provost, will establish guidelines on both the types of courses that can be offered and the specific situations when courses can be offered in a remote format (modes 2–5). In addition, senior associate deans, in consultation with the dean of the college, will establish guidelines on both the types of courses that can be offered and the specific situations when courses can be offered in a remote format (modes 2–5). They will also set limits on how many and in which cases remote classes can be offered every semester. Instructors will need approval from their department chair to offer remote classes (modes 2–5).

For more information, see UPM #31 (https://registrar.unc.edu/academic-services/policies-procedures/university-policy-memorandums/upm-31-instructional-modes/).

Global Language Placement Credit

For General Education Purposes

Students may complete their General Education global language requirement through one of the below means:

- Completion of a level 3 or higher language course at UNC approved for the global language requirement.
- Verified completion of two or more years of secondary education primarily taught in a language other than English.
- Verified completion of two or more semesters of higher education (defined as the equivalent of 24 eligible for transfer credit hours) primarily taught in a language other than English.
- Completion of a UNC language placement test in the language with a placement beyond level 3.
- Non-UNC language exam scores (including AP, IB, and others) submitted to UNC which are approved as credit for level 3 or above.
- Transfer credit for a language course approved as level 3 or above. Credit for languages not currently taught at UNC will articulate as GENR 203 (level 3) which meets the global language General Education requirement.
- Placement (PL) credit without hours for level 3 (GENR 203) of a language not currently taught at UNC obtained through the language proficiency verification process detailed on the UNC Language Placement website. Every effort is made to verify proficiency in any language, but UNC cannot guarantee that an appropriate placement test or language expert will be available for proficiency verification in all languages.

For the purposes of the above policy, "language other than English" includes languages regardless of country of origin, including sign languages and other languages that do not include a written form. Institutions primarily taught in a language other than English do not need to be located outside the United States to qualify under this policy.

For Continuing a Language Taught at UNC

Experiential Speakers of a Global Language

Enrolled students who have learned a language currently offered at UNC–Chapel Hill by experience (i.e., having grown up speaking another language in the home or having lived several years in another country) and who are conversant and literate in that language and in English, may take a placement test in that language for placement (PL) only and not for credit hours. This placement will determine the student's next UNC course in the language.

Native Speakers of a Global Language

For academic purposes, a native speaker is a student raised in a country outside the United States and formally educated through all or most of high school in a language other than English. Native speakers cannot use By-Examination (BE) credit in their native language to reduce the requirements for a major in that language and will not receive credit for levels 1 through 4 of their native language(s). However, upon recommendation of the appropriate language department, they may receive credit for courses taken at UNC–Chapel Hill beyond level 4 if those courses are heavily based on literature, film, culture, or other content. Native speakers of languages other than English may use the above listed options to satisfy their General Education global language requirement. Native speakers who wish to pursue placement (PL) in their language should follow the appropriate department or General Education process on the Language Placement website.

Hours of Credit

Work is valued and credited toward degrees by semester hours, one such hour usually being awarded for one hour of classroom or direct faculty instruction and a minimum of two hours out of class student work each week. One hour of credit is usually awarded for each three hours of laboratory or field work or work in studio art.

For more information on the University's course numbering system, see UPM #4 (http://registrar.unc.edu/academic-services/policies-procedures/university-policy-memorandums/upm-4-standard-course-numbering-system/).

For the definition of a credit hour, see UPM #29 (http://registrar.unc.edu/academic-services/policies-procedures/university-policy-memorandums/upm-29-definition-of-a-credit-hour/).

Independent Studies for Credit

The University offers independent study experiences for undergraduate students. Such courses, including directed readings, internships/practica, mentored undergraduate research, and senior honors thesis courses for an individual student, are offered for academic credit through departments and curricula. Twelve hours of graded independent study credit may be counted toward graduation (excluding six hours of senior honors thesis credit). No more than 12 hours may be taken in any one semester, with the exception of students completing a full-time teaching internship program in the School of Education and other approved practicum/internship programs in the professional schools. Students may participate in formalized programs, or they may make individual learning contracts for work under the supervision of a member of the permanent faculty at the department/curriculum level. For information about independent study courses in their majors, students should consult the director of undergraduate studies or independent study coordinator in their major department or curriculum. Students, in consultation with the faculty member, must complete a learning contract and have it approved by the director of undergraduate studies (or designee). Registration for an independent study course must be completed after the learning contract has been approved and no later than the last day of "late registration" (*the end of the second week of classes in fall or spring semester or the equivalent date in each summer session*). A template (http://registrar.unc.edu/files/2014/02/Template-Adapted-for-Use-in-the-College-of-Arts-and-Sciences.pdf) for such a learning contract is available online. Students

are strongly encouraged to begin this process early, well before the beginning of the semester.

For more information, see UPM #30 (https://registrar.unc.edu/upm-30-independent-study-policy/).

This policy is maintained by the College of Arts and Sciences and Educational Policy Committee. Last revised November 28, 2017. See also Resolution 2012-12 *(*http://faccoun.unc.edu/files/2011/03/Res2012-12OnIndependentStudyFinal.pdf*) and* Resolution 2013-6 *(*http://faccoun.unc.edu/files/2011/03/Res2013-06OnIndependentStudyTFReportFinal.pdf*).*

Semester Schedule

UNC–Chapel Hill academic operations are on a semester calendar, primarily divided into the fall and spring semesters with standard course meetings within a 17-week session. Summer School offers two sessions of five weeks each, a three-week Maymester, and other short courses with various beginning and ending dates. For specific dates, see the University's Academic Calendar (https://registrar.unc.edu/academic-calendar/).

REGISTRATION, ENROLLMENT, AND WITHDRAWAL

Registration

General Policies

UNC–Chapel Hill students use the ConnectCarolina Student Center to register for courses. Students should refer to the Registration Guide (http://registrar.unc.edu/guide/) on the Office of the University Registrar's website for instructions regarding registration. Please see the full text of UPM #5 (https://registrar.unc.edu/upm-5-registration-drop-add-and-class-rolls/) on the University's policy website (https://registrar.unc.edu/university-policy-memorandums/).

Students who register during the billing period must pay tuition and fees, or give notice of anticipated aid, to the Office of Student Accounts and University Receivables by the published tuition and fees due date or their schedule will be cancelled and all their classes dropped before the beginning of classes. Students who register after the billing period must pay estimated tuition and fees or give notice of anticipated aid before they can register for that semester. Students who register after the date designated for official registration must pay an additional fee of $20.00 for late registration. If the delay results from circumstances clearly beyond the student's control, an appeal may be made in writing to the registrar. The appeal must show sufficient justification for the delay and has to be approved by the dean of the school in which the student is enrolled. In the College of Arts and Sciences, dean's office approval is granted by the#associate dean for academic advising#or their designee. Students should refer questions to UNC Advising.

North Carolina law requires that no person shall attend a college or university in North Carolina without presenting a certificate of immunization to the college or university on or before the first day of matriculation. This certificate indicates that the student has received immunizations required by law. New students at UNC–Chapel Hill must provide the director of Campus Health Services with an immunization record certified by a physician. Students who fail to present the required certificate of immunization within 30 days of enrollment will be withdrawn from the University. Their enrollment will not be reinstated until they have provided a certificate of immunization to Campus Health Services.

Registration for credit for any course at the start of the semester is limited to the first five days of classes unless a late registration is approved by the course instructor and the student's dean or academic advisor. Any student who has not registered for courses after the primary billing date will be restricted from accessing the registration system for that term and will be required to submit a prepayment. For more information, please see "Course Schedule Changes" below.

Registration Advising for First-Year Students and Sophomores

All first-year students and sophomores are assigned a primary academic advisor with UNC Advising in the College of Arts and Sciences but may see any advisor as appropriate. Advisors' names and office locations (http://advising.unc.edu/see-an-advisor/) are posted on the web. First-year students must meet with an advisor for registration advising at least once during their first year before registering for their third semester on campus; an online module to assist students with registration, policies, and procedures is also available. All students are strongly encouraged to review their Tar Heel Tracker each semester and regularly meet with an advisor to ensure that they remain on track to graduate.

Advisors will answer students' questions and review their tentative course selections to help students achieve appropriate academic progress. In subsequent semesters, students are encouraged to discuss academic progress with their academic advisor. Students should follow instructions received from the Office of the University Registrar, which may be accessed by logging on to ConnectCarolina.

Registration Advising for Juniors and Seniors

Juniors and seniors receive academic advising during registration periods according to the directives set out by their college/professional school and major. Juniors who have not yet declared a major must meet with an advisor in UNC Advising before registration.

The department or curriculum in which the student's primary major is housed determines the procedures juniors and seniors must follow for registration. In some cases, the student must meet with a faculty advisor in the department or curriculum of the primary major before being able to register each semester. These advisors answer questions specific to the major and about graduate and career opportunities in the field.

Students admitted to a professional school will receive advising and assistance on all academic matters from an advisor in their school.

Academic Level (Class Standing)

All students who begin their undergraduate careers at UNC–Chapel Hill are considered first-year students for the first and second semesters. In their third semester and thereafter, a student's classification (sophomore, junior, senior) is determined by the cumulative number of credit hours earned:

- 1–29 credit hours earned: first-year student
- 30–59 credit hours earned: sophomore
- 60–89 credit hours earned: junior
- 90 + credit hours earned: senior

Registration Priority

A student's first available date for registration (registration priority) is based on the number of earned credit hours (excluding in progress credits and test credits) and the number of semesters completed.

By policy of the Faculty Council (Resolution 2007–3), the University limits students to eight semesters of full-time study. Transfer students who transfer in the UNC–Chapel Hill equivalent of two or more semesters (see "Calculation of Transferred Semesters Based on the Number of Transfer Hours") may enroll in up to 10 total semesters (Resolution 2017-1 (https://facultygov.unc.edu/wp-content/uploads/sites/261/2017/01/Res201701OnMultipleAreasofStudy.pdf)). To help ensure graduation within the eight-semester limit, students' registration priority will include the number of semesters completed in the calculation.

Terms in residence are tallied in three ways:

1. UNC–Chapel Hill full-time enrollment
   Regardless of the number of credit hours, any fall or spring semester of enrollment in UNC–Chapel Hill courses (including UNC–Chapel Hill study abroad courses, but excluding Carolina Courses Online) counts as one semester of full-time study, unless the student is enrolled as a part-time student through Part-Time Classroom Studies. (Summer sessions at UNC–Chapel Hill do not count as semesters.)
2. UNC–Chapel Hill part-time enrollment

Each full multiple of 15 cumulative credit hours earned at UNC–Chapel Hill in fall or spring terms (not summer terms) counts as one semester of full-time study for any student enrolled as a part-time student through Part-Time Classroom Studies.

3. Transfer credits awarded for courses taken at other colleges
   Each full multiple of 15 cumulative transfer-credit hours counts as one semester of full-time study. Excluded from this calculation are transfer hours awarded for courses taken either concurrent with high school or during any summer term after the student has matriculated at UNC–Chapel Hill.

Students may refer further questions to the Academic Advising Program (if the student is in the College of Arts and Sciences) or to their respective dean's office.

Repeating Course Enrollments

A student who proceeds with enrollment in a course not designated as repeatable can only earn credit once toward the fulfillment of the University's minimum undergraduate degree requirement. The credit is earned from the course with the highest passing grade or, if grades are the same, the latter attempt. The grades of all attempts of the course, however, are computed in the student's cumulative grade point average.

Certain University courses (e.g., applied music, special studies, undergraduate research, etc.) may be taken more than once for credit and are so designated in the course catalog as repeatable. A particular physical education activity (PHYA) course may be taken more than once, so long as a different level of the same course (beginning, intermediate, and advanced) is taken during each separate enrollment. PHYA courses do not award academic credit hours toward an undergraduate degree, but the grade is factored into the cumulative grade point average. Students may enroll in no more than one lifetime fitness (LFIT) course, and only one LFIT course will count toward academic credit hours for an undergraduate degree.

For the purposes of receiving financial aid, hours for repeated courses will only be considered a part of the total upon which awards are based if:

1. the student is repeating a course previously failed, or
2. the course is the **first** repeat of a prior course in which a passing grade (D or higher) was received.

Maintained by the Educational Policy Committee. Last approved on April 21, 2017, see Resolution 2017-6 *(*https://facultygov.unc.edu/wp-content/uploads/sites/261/2017/04/Res2017-6RepeatingCourseEnroll.pdf*).*

Cancellation of Enrollment

A cancellation of enrollment is, in effect, the same as a student not registering. Classes are not reflected on the student's transcript, and no tuition and fees are charged. If a student registered for classes a cancellation is only applicable if there no documentation of student attendance or for the following administrative reasons. A registration cancellation will be processed for any student who has a "hold" on the tuition and fees due date for each term, and students will be notified. A cancellation will be processed if a student is not cleared financially; is not academically eligible to continue in school; or shows a cashier's hold, Office of Undergraduate Admissions hold, dean's office hold, or Campus Health Services cancellation hold. In some cases, a student may request to cancel his or her registration for personal reasons and may do so by following instructions (https://registrar.unc.edu/term-cancellation/) listed on the Office of the University Registrar's website. To request a cancellation after classes begin, however, students must process the cancellation through their academic advising dean's office. Students may refer further questions to UNC Advising (if the student is in the College of Arts and Sciences) or to their respective dean's office. For more information also see the sections on withdrawing from the University.

Administrative Changes to Course Registration

Students have the responsibility to maintain the accuracy of their course schedule. A department or curriculum in the College of Arts and Sciences has the option to drop a course from a student's registration if the student fails to attend both of the first two class meetings (or the first class meeting if the course meets only once each week). The appropriate dean's office will be responsible for informing departments of students who cannot attend the first two class meetings because of illness or other reasons approved by a dean. Students should never presume that an instructor or department/curriculum will systematically drop classes from the student's schedule. However, if such an action is taken by a department/curriculum, the registration openings resulting from these drops will be offered to other students seeking enrollment in the courses during the official add period (first five days of classes) or thereafter, as determined by the instructor of the class or by the department, curriculum, or school.

Departments/curricula can drop students' courses using the computerized registration system prior to the last day to reduce a course load for financial credit. To effect such a drop after that date but before the end of the eighth week, a student can drop the course through ConnectCarolina. (See "Course Schedule Changes" below.) Students who have applied for graduation and who have requested an academic underload must have that request approved to receive financial credit for reducing their course load.

Auditing Courses

To audit a class, registered students and persons not registered must obtain a registration/drop/add form from the teaching department offering the class. Permission from the class instructor and the department chair is required and should be indicated on the form with a written signature. This procedure applies to fall, spring, and both summer terms.

Requests to audit a class may be submitted only after the end of the official registration period (last day for students to add a class or late register) when it has been determined that there is still space available in the class. This date can be found on the University Registrar's Calendar (http://registrar.unc.edu/academic-calendar/) for the specific term.

Auditing classes is permitted only in lecture-based courses and never in courses that include laboratories or performances. Auditing is not permitted in courses that focus on the development of written or oral communication skills or that rely heavily on class participation. Auditing is not permitted in independent studies courses, internships, special topics, directed readings, or similar courses. Auditing is also not permitted in classes that are offered primarily online. Students may not audit courses offered through Digital and Lifelong Learning (Part-Time Classroom Studies, Carolina Courses Online, Self-Paced Courses, or tutorial programs) or courses preparing students for credit by examination.

Students auditing a course do not write papers, take quizzes or examinations, or request review of their work, and do not participate in class discussions unless otherwise directed by the course instructor. Students who audit a course may not subsequently receive course credit for that course. Additional information on the University's policy on auditing (http://registrar.unc.edu/academic-services/policies-

procedures/university-policy-memorandums/upm-9-auditing-courses/) is available online.

Students officially registered for other classes in the same term may audit a class without paying a fee. Persons not registered for classes must pay a $20.00 fee per class to the Office of Student Accounts and University Receivables, then bring the permission and receipt to the Office of the University Registrar to complete the process. Payments will only be accepted after the end of the official registration period. Effective fall 2017, individuals age 65 or older may audit a class without paying a fee.

If requested, a copy of the registration transaction will be given to the student to provide to the class instructor at the beginning of the term.

Changes in Fall and Spring Semester Schedules

Continuous Course Enrollment: Foundations English Composition and Foreign Language Requirements

Effective in fall 2012, students admitted as first-year or as transfer students are required to complete ENGL 105/ENGL 105I (ENGL 100 and ENGL 105/ENGL 105I, if applicable) during their first year, and they must maintain continuous enrollment in Foundations global language courses until they have completed this requirement. Students are not permitted to drop ENGL 100, ENGL 105/ENGL 105I, or global language levels 1 through 3 being used to fulfill the Foundations requirement after the second week of the semester, unless approved by a dean in the Academic Advising Program. Such approval will be for exceptional circumstances only. Students should not stop attending English composition and rhetoric and Foundation global language classes without speaking with a dean in the Academic Advising Program.

Course Schedule Changes

Insofar as possible, changes in course registration schedules should be made during the first five days of classes. During this time, students may add courses using the online registration system. During days six through ten of classes, students must obtain permission to register or make additions to their schedule from the course instructor; if approved, the academic department, curriculum, or school will add the student through the computerized registration system. After the tenth day of classes, if students wish to register or make additions to their schedule, they must obtain a registration/drop/add form from their academic advisor, the concerned department, or their professional school and must obtain the signatures of both their instructor and their school dean (or dean's designee). For students in the General College and the College of Arts and Sciences, only the associate dean for advising (or dean's designee) has this authority. After the tenth day of classes, deans (or deans' designees) will approve only those registrations or course additions that have first been approved by the instructor. Approval of additions to a student's schedule during this period is at the deans' (or the deans' designees') discretion.

Course Schedule Changes during Weeks One and Two

During the first two weeks of classes, students may drop a course using the online registration system, but they are responsible for ensuring that their schedules do not fall below the minimum 12 academic hours required for full-time registration.

Course Schedule Changes during Weeks Three through Eight

When a course is dropped between the second and eighth week of classes, a notation of WC (withdrawal by choice) shall be recorded and used internally for tracking and reporting purposes. For external purposes, the WC notation is equivalent to the W grade. Once declared, a WC notation cannot be rescinded except when a student withdraws from an entire semester due to extenuating circumstances. All first-year, first-time students entering the University in fall 2014 or thereafter are allowed to accumulate no more than 16 hours of WC notations during their undergraduate career.

Course Schedule Changes after the Eighth Week of Classes: The Appeal Process

After the eighth week of classes, students must petition to drop courses through the dean's office of the school in which they are enrolled. For students in the General College and the College of Arts and Sciences, the associate dean for advising (or designee) has this authority.

To drop a course after the eighth week of classes, students must complete and submit an appeal to the appeals committee of their college or school. In the General College and the College of Arts and Sciences, an appeals committee meets weekly (except the week of July 4 and Christmas). Possible legitimate reasons for requesting a course drop after the eighth week of classes include serious illness, personal or family problems, financial problems requiring employment after the start of the semester, or other compelling and extenuating circumstances that prevent students from meeting their academic responsibilities.

Students must first discuss their reasons for requesting a late course drop with an academic advisor or their academic dean. The advisor or dean will explain the process for an appeal and refer the student to the online information and link to the online appeal form. The appeal must include a statement from the student and pertinent documentation that provides compelling support for the appeal. The student must submit all documents online to the office of the associate dean for advising in the Academic Advising Program of the College of Arts and Sciences and General College. *Submission of an appeal does not ensure that the request will be granted, and students must continue to attend classes and complete all assignments until informed of the committee's decision.* If a course drop is approved, the registration/drop/add form is processed through the Office of the University Registrar.

Students enrolled in professional schools should acquaint themselves with the appropriate appeals procedures in their schools.

The notation of W (withdrawn) is entered in the grade column of academic transcripts if students are permitted by their school to drop a course after the eighth week of classes or proportional equivalent for summer terms and other nonstandard enrollment periods. This notation is automatically entered unless the student's academic dean specifies otherwise.

Interinstitutional Registration

A student regularly enrolled in a degree program at the University may enroll by interinstitutional registration for a course at Duke University, North Carolina Central University, North Carolina State University, the University of North Carolina at Charlotte, or the University of North Carolina at Greensboro under the following conditions:

- Space must be available in the course.
- The student's advisor as well as their academic advising dean's office must certify
  a. that the course is appropriate for the student's degree program, and
  b. that an equivalent course is not available at this university during the same term.

- Enrollment in interinstitutional registration is limited to one interinstitutional course per regular term, provided that the student is registered for the balance of her or his full-time load at UNC–Chapel Hill. All enrollment transactions must be processed by the Office of the University Registrar.
- A student will be billed by his or her home institution for all the courses taken (including interinstitutional courses) at the prevailing tuition rate. The University of North Carolina at Chapel Hill will receive no fees from an interinstitutional student taking courses at this campus unless there is a special fee associated with a particular course. In such a case, the student must pay the fee.
- The last day for a student to submit an interinstitutional request to the Office of the University Registrar will be the last day to add a course without departmental approval, according to the registrar's calendar. If a student is interested in a course that begins after this deadline, due to differing university schedules, or separate modules that the course is being offered in, the deadline will be the fifth day after the start of that class. Start dates will be verified with the school offering the course.
- Students must comply with the academic calendar of their home institution for all dates, such as deadlines for adding and dropping courses.
- A student taking a course by interinstitutional registration will be graded in the course in accordance with the grading system of the institution where the course is taken, and grades will be converted in accordance with the grading system of the home institution. The transcript will identify the institution where the course was taken in the space where the descriptive course title is normally shown.

Additional information (https://registrar.unc.edu/interinstitutional-programs-visiting-students/), procedural instructions, and forms are available at the Office of the University Registrar's website.

Academic Course Load

Fall and Spring Semesters

To meet the minimum graduation requirement of 120 academic hours within the eight-semester limit, students should average 15 hours each semester. However, four-hour foreign language courses and four-hour laboratory science courses often account for course loads of 16 to 18 hours. Students may not enroll in more than 18 academic hours unless they have earned a 3.000 grade point average in the preceding regular semester and have a cumulative 2.500 grade point average. Exceptions require the approval of the student's dean. With approval of their dean, seniors meeting graduation requirements during their final semester in residence may enroll in up to 21 academic hours if they have a cumulative and preceding semester grade point average of 2.000. In the College of Arts and Sciences, dean's office approval is granted by the#associate dean for academic advising#or their designee. Students should refer questions to UNC Advising.

The minimum course load for a single semester is 12 academic hours. Students may not go below the 12-academic-hour minimum without permission of their dean. All students should discuss semester enrollment of fewer than 15 academic hours with their advisor because such enrollments may affect academic eligibility and the ability to complete all degree requirements in the required eight semesters.

The approved maximum course load for students in a part-time program is eight credit hours in a fall, spring, or summer term.

Summer School

The summer term begins with the first day of Maymester and continues through the last day of the Summer Session II. Administered by Summer School, summer courses are offered in two sessions (Summer Session I and Summer Session II), with a Maymester period overlapping the first three weeks of Summer Session I. For UNC–Chapel Hill students, credit hours and grades count the same as in fall or spring terms. For visiting students, transfer of grades or credit is determined by their home institution.

The typical full course load is two courses, usually six credit hours. However, effective Summer 2021, students may enroll in up to nine credit hours each in Summer Session I and in Summer Session II. It is recommended that, if students enroll in a Maymester course, they not enroll in a second Maymester or Summer Session I class.

Withdrawal

After the term start, students withdrawing from the University should submit an official withdrawal request through their ConnectCarolina Student Center to start the process (see sections on medical and academic withdrawal below) before the end of classes during a semester or summer session. Students in attendance considering withdrawal should contact their academic advising dean's office, Campus Health Services, or Counseling and Psychological Services for additional information. Official term withdrawal from the University is required if a student wishes to drop all classes after a semester begins. An official withdrawal may facilitate readmission in a future term. Leaving the University without completing the official withdrawal process can result in the assignment of final class grades computed as failing in establishing grade point averages and possibly rendering a student academically ineligible. Enrolled students who do not withdraw officially will be responsible for the full tuition and fee payments associated with enrollment for the entirety of the semester.

Medical Withdrawal

If a student decides to withdraw for reasons of illness, either physical or psychological, the student should contact Campus Health Services or Counseling and Psychological Services, whether the treatment was received there or elsewhere. If a medical withdrawal is authorized, the official withdrawal will be handled through the Office of the Director of Campus Health Services or Counseling and Psychological Services.

Administrative Withdrawal

A student who is withdrawn for disciplinary purposes must comply with the specific requirements or conditions outlined by the adjudicating body (e.g., Honor Court, Emergency Evaluation and Action Committee, etc.) prior to readmission. Unless specified by the adjudicating body, the term(s) in which disciplinary suspension is active shall not be calculated in the four academic year degree credit hour equivalency. Preclearance from the adjudicating body may be required in certain cases.

Military Withdrawal

In compliance with the UNC System Regulation for Military Student Success (https://www.northcarolina.edu/apps/policy/doc.php?id=852), military-affiliated students who withdraw from the University for military service, also referred to as "called to duty", receive a notation on the academic transcript for the term withdrawal and where appropriate a special use grade symbol of WM instead of W for enrolled courses. Students are verified by the Dean of Students or designee that they are required to withdraw from a course or courses due to military service. This applies to all military-affiliated students across all careers and

programs who in extraordinary circumstances are “called to duty” and are not otherwise eligible to complete academic courses for the semester (e.g., Instructor approved IN).

Academic Withdrawal from All Courses

If a student decides to withdraw for reasons other than health related, or if a withdrawal cannot be authorized through Campus Health Services or Counseling and Psychological Services, the student should submit an official withdrawal request through the ConnectCarolina Student Center. In determining an undergraduate student’s eligibility for readmission the following conditions apply:

- For students who officially withdraw from the University after the second week of a fall or spring semester, a grade of W is assigned to each course the students were enrolled in at the time of withdrawal.
- Students who officially withdraw from the University are assigned a semester in residence if their withdrawal is initiated before the end of classes during a fall or spring semester.
- Withdrawal from a summer session is not counted as a semester in residence. If the withdrawal is initiated after the drop deadline during a summer session, a grade of W is assigned to each course that the student is enrolled in at the time of withdrawal. The credit hours associated with the withdrawal will count as attempted but not passed hours in the determination of the student’s academic eligibility.
- Students enrolled as summer session visitors from schools outside UNC–Chapel Hill must withdraw through the Office of the Dean of Summer School.
- If a student completes an official withdrawal or is withdrawn administratively for any reason from a fall or spring semester, tuition and fees will be prorated over a period of nine weeks at a rate of one-tenth of the semester’s bill, after deducting an administrative charge. The last date for credit on a student’s financial account for withdrawal is nine weeks after registration. If a student completes an official drop from a summer class within the first three days of classes for the session, tuition and fees will be prorated.
- If a student withdraws from the University during a semester and receives financial aid funds prior to the date of withdrawal, a portion of that money will be returned to the aid program(s). The repayment will be calculated by the Office of Scholarships and Student Aid when the official withdrawal is noted within the ConnectCarolina system.

Retroactive Withdrawal

- Students may request a retroactive term withdrawal from a semester or summer session under extraordinary circumstances. Such requests must be made in writing to the appeals committee of the college or school in which the student is currently enrolled. The decision of that appeals committee is final. If the retroactive term withdrawal is approved, the effective date of this action is always the last day of classes in the term or session. No refunds are ever provided when a retroactive withdrawal from a semester or summer session is approved.

Loan Deferments and Certification/ Verification of Enrollment Status

The Office of the University Registrar provides confirmation of student enrollment data to financial institutions, organizations, or agencies requiring proof of registration. Students can order an enrollment certification online through their ConnectCarolina Student Center. Additional information about ordering a certification (https://registrar.unc.edu/order-an-enrollment-certification/) is available online or by calling (919) 962-3954.

ATTENDANCE, GRADING, AND EXAMINATION

Class Attendance Policy

(Maintained by the Education Policy Committee. Resolution 2024-6 *(*https://facultygov.unc.edu/wp-content/uploads/sites/261/2024/04/Proposed-resolution-on-UAA-Policy_April-2024_updated.pdf*), passed on April 26, 2024; Updated on August 19, 2024)*

The Faculty Council enacts:

Section 1. The academic regulation concerning University approved absences shall be as follows for all students, beginning with fall semester 2024:

Class Attendance Policy

This policy applies *only* to University approved absences, which are listed below. For absences related to final examinations, see the Policy on Final Examinations.

Regular class attendance is a student obligation. Students are responsible for all work, including assessments, tests, and written work, and for all class meetings, as outlined in each individual course syllabus. These policies apply for fall, spring, and summer terms.

No right or privilege exists that permits a student to be absent from any class meetings, except for these University approved absences:

1. Authorized University Activities;
2. Disability, religious observance, pregnancy, or short-term military service, as required by law or approved by the Equal Opportunity and Compliance Office (EOC), or in the case of short-term military service, the Dean of Students;
3. Significant health condition and/or personal/family emergency as approved by the Office of the Dean of Students, Gender Violence Service Coordinators, and/or the Equal Opportunity and Compliance Office.

In situations when an absence is not University approved (e.g., due to a job interview, club activity, common illness such as the flu, strep throat, or Covid), instructors determine their own approach to missed classes and make-up assessments and assignments.

The University's policy regarding University approved absences and the instructor's course-level policies, including those for attendance, are communicated to students via the instructor's *course syllabus* on the first day of class.

Students are encouraged to communicate early and often with their instructors about potential absences, and are reminded that they are bound by the Code of Student Conduct to always be honest in making a request for a University approved absence.

Make-up Coursework and Assessments

All students with University approved absences will be treated fairly and equitably, regardless of the reason for the absence. The rationale for the University approved absence will not be communicated in the notification to instructors.

Instructors will provide reasonable adjustments that permit course objectives and learning outcomes to be met. These adjustments must allow students to demonstrate what they have learned and not penalize the students' final grade in the course. Faculty will clearly define these adjustments in the syllabus. It is a University expectation that instructors be prudent, fair, and equitable when a student misses an assessment due to a University approved absence. The total number of allowable University approved absences per course will be based on individual course learning methodologies and outcomes as determined by the student, their course instructor(s) and the designated University office/department (e.g., EOC, department chair). For further details on make-up policies, see implementation details on the University Approved Absence Office website as well as the review process described at the end of the policy.

Notification of University Approved Absences

1. Authorized University Activities: Students acting as official representatives of the University who are participating in University-sanctioned activities will be granted a University approved absence. An absence is an authorized University activity if the absence serves a purpose for the whole university as *the university*, as a collective entity. An example would be if the student body president is attending a national conference of student body presidents, sponsored by the Dean of Students. A second example would be required participation in and support for NCAA varsity sports. An absence is not University authorized if it is for one class, one major, one professor, or one student organization. The University Approved Absence Office will verify the validity of the request. In situations where the absence is planned the request for a UAA must be submitted as soon as the date is set; in situations where the absence is unplanned, the request should be submitted to the UAAO as soon as possible. If the UAAO approves the request, students have the responsibility to inform their instructor prior to the next class attendance.

2. Accommodations for disability/religious observances/pregnancy/short-term military service, as required by law:

a. Equal Opportunity and Compliance (EOC) verifies University approved absences for students who have been identified and provided accommodations by their office. EOC contacts those students' instructors directly through a faculty notification.

b. Religious Observance: Pursuant to North Carolina General Statute 116-11(3a),students are authorized a minimum number of University approved absence(s) according to state law for religious observance/practices required by their faith, and the University is required to consider requests for more than two absences as religious accommodation on a case-by-case basis. Students who wish to request University approved absences for religious observance required by their faith should review the University's Accommodations Policy and follow the procedure set out in that policy for requesting such absences. Students are responsible to request a University approved absence for religious observance at least two weeks in advance of the date(s), or as soon as possible if the date(s) occurs within the first two weeks of the semester, or within the first two days of a summer session. Primary holy days for religious observance are noted on the UNC Web-based interfaith calendar. The Web-based calendar should *not* be interpreted as an exhaustive list of holy days that the University will recognize for purposes of religious accommodations.

c. Pregnancy and Related Medical Conditions: Students who wish to request University approved absences for pregnancy and related medical conditions should review the University's Accommodations Policy and should contact the Equal Opportunity and Compliance Office prior to the requested dates for review and approval.

d. Short-Term Military Leave: Federal or state military orders that require a student's absence should be submitted as soon as received to the UAAO. The documentation will be reviewed by the Veterans Resource Center. After the documentation is verified, The University Approved Absence Office will communicate the University approved absence to course instructor(s). A student is eligible for University approved absence/s under this policy if, during an absence, the student performs uniformed service, voluntary or involuntary, in the Armed Forces, including the National Guard or Reserve, active duty, or active duty for training.

3. Significant Health Conditions and/or Personal/Family Emergencies as approved by the Dean of Students office, Gender Violence Service Coordinators and/or the Equal Opportunity and Compliance Office. Significant health conditions are generally defined to be ones in which the student will be required to miss five or more consecutive days of class. Once the documentation has been approved, the approving office will request that the University Approved Absence Office issue a University approved absence notification to the student's instructor(s). The University Approved Absence Office will inform the course instructor in advance if the reason for the University approved absence is planned or as soon as possible if the reason for the absence was not foreseen.

Review

Review of Faculty-Provided UAA Academic Adjustment(s): Given the swift and cumulative nature of a semester, a plan for the adjustment should be made no later than five business days of the last absence. For planned or pre-approved University approved absences, the plan for adjustments will be determined prior to the absence dates. After receiving the final adjustment plan from the instructor, if the student feels that a reasonable adjustment plan was not provided, they may submit a review request about the academic adjustment only within three business days of receiving the adjustment plan from the instructor as described on the University Approved Absence Office website. The review will be completed within three business days of submission of the review and be a true evaluation of the circumstances by the chair or chair designate.

Section 2. Resolution 2018-1 is repealed and replaced by this updated policy.

Submitted by the Educational Policy Committee

Links to additional resources,

- University Approved Absence Office website: https://uaao.unc.edu/ (https://uaao.unc.edu/)
- Accommodations Policy: https://policies.unc.edu/TDClient/2833/Portal/KB/ArticleDet?ID=131715 (https://policies.unc.edu/TDClient/2833/Portal/KB/ArticleDet/?ID=131715)
- UNC web-based interfaith calendar: https://diversity.unc.edu/holy-days-observances/ (https://diversity.unc.edu/holy-days-observances/)

Final Examinations

The complete Final Examination policy for the University is UPM#8 Examination System (https://registrar.unc.edu/upm-8-examination-system/). Details on final examinations are found in this policy.

This below portion of the policy applies to all undergraduate courses across the University. *(Maintained by the Education Policy Committee. Resolution 2017-5, passed on April 21, 2017; Resolution 2017-5.1, passed on May 15, 2017)*

Undergraduate courses taught on campus must include a final assessment of students' mastery of course material (i.e., final examination) unless the provost grants an exception. A traditional final examination is administered at a predetermined time as specified in the official final examination schedule (https://registrar.unc.edu/final-exam-calendars/), and takes place at a designated location in Chapel Hill. Any other type of final examination is considered nontraditional.

The final examination schedule, announced prior to the beginning of the semester, sets the day and time for each examination. No examination may start later than 7:00 p.m. Once having been established, the schedule cannot be changed. Traditional final examinations must be held at the day and time shown on the schedule unless an exception is granted as described below.

Only the provost can grant exceptions to the scheduled day or time of a traditional examination, after review and approval by the appropriate department head and the dean. No examination (except for laboratory sections) may be held at a time other than that specified in the general schedule except with the advance approval of the provost.

A course instructor may, due to highly unusual circumstances, petition for a change in the examination schedule. The instructor must submit the request in writing to his or her chair no later than the last day of late registration for that term, and it must be cleared by the chair and the appropriate dean (e.g., associate dean, Academic Advising) before consideration by the provost. If the petition is approved, the course instructor assumes responsibility for making special arrangements to give the examination to any student who has a schedule conflict as a result of the change. This process only applies to requests to change a day or time for an individual section.

Requests to combine all sections of a specific course into one final exam day and time (regardless of the number of sections involved), is considered a request for a common hour exam and has an earlier deadline for submission. Requests for all common hour exams must be cleared by the chair or appropriate dean and approved by the provost. Requests for common hour exams must be made to the registrar the first week of February for fall semester final examinations and the first week of September for spring semester final examinations. There is no exception to this deadline.

No graded quizzes or exams (excluding in-class presentations) may be given during the last five days of the semester (last two days of the session for summer school) before the beginning of the final examination period.

For a standard three-credit-hour course, the University has a required three-hour final examination period, which includes 180 minutes of instruction in each semester (see UPM #29 – Definition of a Credit Hour (http://registrar.unc.edu/academic-services/policies-procedures/university-policy-memorandums/upm-29-definition-of-a-credit-hour/)). Thus, the University requires instructors to provide a full three hours of instruction for final assessment purposes (e.g., written final examination, presentations, portfolio review, performance, review and evaluation, or some combination of these assessments). It is up to the discretion of the instructor of record to determine the form, content, and function of the final examination (e.g., whether it is cumulative; whether it is a three-hour exam or a shorter exam preceded or followed by a period of review; etc.). A traditional final examination should not exceed a period of three hours. Only examinations requiring an exceptional portion of practical work should be longer than three hours (e.g., student teaching).

Chairs (i.e., heads of instructional units) must give permission for faculty members to use nontraditional examinations. Examples of nontraditional examinations include those requiring more than three hours to complete; or other final assessments such as a portfolio of a semester's work, a final project, or a take-home examination. For multidisciplinary and cotaught courses, permission to give a nontraditional examination must be granted solely by the chair of the instructional unit in which the course is based. Even when faculty members have permission to administer nontraditional final examinations, the scheduled examination period must be utilized for instructional hours. The chair should submit to their academic dean's office an annual summary of the exceptions that were granted.

Students who are absent from an examination receive a course grade of AB (absent), which is equivalent to F (zero quality points), or FA (absent and failing regardless of performance on the final examination). When students are unable, for reasons clearly beyond their control, to take a traditional final examination at the scheduled time, they can be excused only by the director of Campus Health Services or their academic dean (who can issue an "examination excuse"). An absence may be excused for severe health problems leading to the student's placement on the Infirmary List by either Campus Health Services or Counseling and Psychological Services, for significant personal or family circumstances, for religious observances required by the student's faith, for a scheduling conflict involving multiple examinations at the same time, or when a student has three or more final examinations scheduled in 24 hours. In cases of illness, personal or family emergency, or religious observance, additional documentation may be required by the dean. Primary holy days for religious observances are noted on a Web-based interfaith calendar site (http://www.interfaith-calendar.org/). Students are responsible for providing the course instructor and the dean a written request for an excused absence from a final exam for a religious observance or for a scheduling conflict involving multiple examinations no later than the last day of classes. Students must be given the opportunity to make up final exams missed due to an excused absence.

For any University undergraduate courses offered entirely online or via other distance modalities, exams will be offered and must be completed during the scheduled final examination period, but requirements concerning the time of day and place of the exam will be appropriate to the course's mode of delivery. Self-paced courses are exempt from both the time and place requirements of the exam policy and the requirement that exams be held during the scheduled final examination period.

Campus Health Services

Students who are seriously ill during the time of their final examination(s) (including complications related to pregnancy) should consult Campus Health Services or Counseling and Psychological Services about having their names entered on the Final Exam excuse list. In some cases, outpatient treatment can also result in a student's name being entered on the list. Students on the Final Exam excuse list may obtain an official permit from the Office of the University Registrar to take the final examination to remove a grade of AB. They must make arrangements with their course instructor to take the final examination and provide the instructor with their official permit. If students are treated at Campus Health Services or Counseling and Psychological Services but do not appear on the list, they should see the dean of their college as soon as possible. Students may refer further questions to the Academic Advising Program (if the student is in the College of Arts and Sciences) or to their respective dean's office.

Academic Dean

If students know in advance that they must miss one or more final examinations because of illness, religious observance, or other serious problems, they should notify in writing both the course instructor and the dean of the school in which they are enrolled no later than the last day of classes. If this is not possible, they should see their dean as soon after the fact as possible. For students in the College of Arts and Sciences, only the associate dean for advising (or designee) is authorized to issue examination excuses for reasons other than three exams in 24 hours or two exams at the same time. For other students, only the dean of the school in which the student is enrolled has that authority. The dean may require documentation of a student's religious observance, illness, or problems.

Assuming that a student did not take a final examination for one of the reasons previously cited, the dean will issue an official examination excuse, which the student must present to the course instructor when arrangements are made for a suitable time to take the final examination.

A student who has three final examinations scheduled by the Office of the University Registrar within a 24-hour period or two scheduled at the same time may request to his or her dean's office for permission to have one of the scheduled examinations rescheduled. In the College of Arts and Sciences, requests for exam excuses are reviewed by professional staff in Academic Advising via an online request form (https://eef.oasis.unc.edu/). In the event that one of the scheduled examinations is a common final examination for a multiple-section course, that examination is the one to be rescheduled.

Students who have secured an examination excuse or an official permit and who transmit the document to the instructor or the instructor's chair or dean must be granted permission to take the exam at an alternate time, although students will need to arrange a mutually convenient time with the instructor. Except when the provost has provided an exception in writing, the exam will be taken at a time subsequent to the regularly scheduled exam, though no later than the end of the following semester.

The final examination in any course may be taken only by regularly enrolled members of the class whose registration has been certified and by students certified to be eligible to take a special examination in that course. The certifying authority is the Office of the University Registrar.

Each student is required to sign a full and explicit Honor Code pledge certifying that he or she has neither given nor received aid during the examination.

Grading System

Permanent Letter Grades

A letter-grade and plus/minus system for evaluating academic performance is employed for all undergraduates. Each letter grade corresponds to a number of grade points. Each letter-graded course receives a numerical value of quality points (quality points equal grade points times semester credit hours per course) to use in determining a student's average (per credit hour) in a particular term and to find a student's cumulative grade point average (per credit hour).

A = 4.0	B- = 2.7	D+ = 1.3
A- = 3.7	C+ = 2.3	D = 1.0
B+ = 3.3	C = 2.0	F = 0.0
B = 3.0	C- = 1.7	

To determine the grade point average for a term, first determine the total quality points earned in the term by multiplying the number of grade points awarded for each course by the course's assigned number of semester credit hours and adding the resulting quality points earned for each course in the term. Then divide the total quality points earned in the term by the number of semester credit hours attempted (for letter grades) in the term.

Example

Course	Grade	Grade Points	x	Credit Hours	=	Quality Points
Course A	C+	2.3	x	3.0	=	6.90
Course B	B-	2.7	x	3.0	=	8.10
Course C	B	3.0	x	4.0	=	12.00
Course D	C-	1.7	x	3.0	=	5.10
Course E	A-	3.7	x	1.0	=	3.70
Course F	F	0.0	x	1.0	=	0.00
Course G	A	4.0	x	3.0	=	12.00
Total quality points earned:						47.80
Total graded hours:						18.0
Term grade point average:						47.80 ÷ 18.0 = 2.656

Permanent grades are defined as follows:

A	Mastery of course content at the highest level of attainment that can reasonably be expected of students at a given stage of development. The A grade states clearly that the student has shown such outstanding promise in the aspect of the discipline under study that he/she may be strongly encouraged to continue.
B	Strong performance demonstrating a high level of attainment for a student at a given stage of development. The B grade states that the student has shown solid promise in the aspect of the discipline under study.
C	A totally acceptable performance demonstrating an adequate level of attainment for a student at a given stage of development. The C grade states that while not yet showing any unusual promise, the student may continue to study in the discipline with reasonable hope of intellectual development.
D	A marginal performance in the required exercises demonstrating a minimal passing level of attainment for a student at a given stage of development. The D grade states that the student has given no evidence of prospective growth in the discipline; an accumulation of D grades should be taken to mean that the student would be well advised not to continue in the academic field.
F	For whatever reasons, an unacceptable performance. The F grade indicates that the student's performance in the required exercises has revealed almost no understanding of the course content. A grade of F should warrant questioning whether the student may suitably register for further study in the discipline before remedial work is undertaken.

Grades earned and semester hours attempted at other institutions are not included in the calculation of the University grade point average.

Records of progress are kept by this institution on all students. Students can access official semester grades in ConnectCarolina at the end of the term. Questions about access to student official grades or grade reporting should be directed to the Office of the University Registrar.

Pass/Fail Option

The Pass/Low Pass/Fail (PS/LP/F) option provides undergraduate students an opportunity to explore areas of interest without penalty to their overall GPA. Courses declared on a PS/LP/F basis do not count towards a student's GPA, unless the course is failed, but do count towards credit hours for graduation and satisfactory academic progress and eligibility completion rates. Students who declare a course PS/LP/F will receive:

- the notation of PS (pass) when a letter grade of A through C is earned,
- the notation of LP (low pass) when a letter grade of C-, D+, or D is earned,
- and a grade of F when the course is failed.

Low Pass (LP)

- Low passing grade for a course using **PS/LP/F** grading, when an undergraduate student would have earned a letter grade of C-, D+, or D. Effective special grading accommodation for fall 2020, spring 2021, and later approved as a permanent grade.
- For undergraduate students who elect to take a class under the **PS/LP/F** option, the instructor must assign the regular appropriate letter grade.
- Instructors are not informed of which students have elected the **PS/LP/F** option.
- Grades of C-, D+, or D are converted to a LP grade on the official record maintained by the Office of the University Registrar.

Pass (PS)

- Passing grade for a course using **PS/LP/F** grading, when an undergraduate student would have earned a letter grade of A through C. Prior to fall 2020 the PS grade was used when a student would have earned a letter grade of A through D and the LP grade was not used.
- For undergraduate students who elect to take a class under the **PS/LP/F** option, the instructor must assign the regular appropriate letter grade.
- Instructors are not informed of which students have elected the **PS/LP/F** option.
- Grades of A through C are converted to a PS grade on the official record maintained by the Office of the University Registrar**.**

PS and LP notations do not impact a student's grade point average (GPA); however, an F grade is treated in the same manner as F grades earned in any other course and therefore does impact a student's GPA. Courses used to fulfill "gateway," "prerequisite," or "additional requirements" for a declared major or minor (as outlined in the *Undergraduate Catalog*) **may not** be declared as PS/LP/F. Also, students **may not** elect to change their major or minor for the purpose of declaring a course on a PS/LP/F basis. Understanding that exploration may also lead to interest in a particular area, students may elect to use one course completed with a grade of PS, not LP, towards major and/or minor "Core Requirements" (as outlined in the *Undergraduate Catalog*). Instructors are not informed when a student changes the grading basis to PS/LP/F and report earned grades to the Registrar's Office where the grade is converted to a PS or LP. All PS/LP/F declarations are final. Once a course has been declared as PS/LP/F, students cannot reverse their decision and change the grading basis back to a letter grade.

Pass/Low Pass/Fail Declaration Procedure

To declare a course Pass/Low Pass/Fail (PS/LP/F), a student must complete the PS/LP/F Course Request Form within ConnectCarolina. Students are advised to discuss the advisability of declaring a course PS/LP/F with their assigned advisor or faculty advisor (if appropriate) before committing themselves to a formal declaration. Students considering this option are cautioned that many admissions representatives from professional schools and graduate school programs consider applicants whose transcripts have a significant number or trend of PS/LP grading notations less favorably than applicants whose transcripts contain none or very few. The period for PS/LP/F declarations begins on the fifth day of classes of each semester and concludes at the end of the eighth week of classes.

Regulations Governing the Pass/Low Pass/Fail Option

The following regulations govern the use of the Pass/Low Pass/Fail (PS/LP/F) option:

1. Students may only take one student-elected PS/LP/F course each semester.
2. No more than 23 total credit hours of PS/LP/F credit hours will be allowed in a student's undergraduate career, with no more than 16 hours (of the 23) from student-elected PS/F classes and no more than 13 hours (of the 23) from established PS/LP/F courses.
3. The following courses may not be declared PS/LP/F:
    - Courses only offered on a PS/LP/F grading basis per the *Undergraduate Course Catalog*
    - Courses used to satisfy First-Year Foundations requirements
    - Courses used to satisfy General Education requirements
    - Global language courses levels 1 through 3 if the language is being used to fulfill the General Education requirement
    - Courses successfully completed for a letter grade (A–D)
    - Courses used as "gateway," "prerequisite," and/or "additional requirements" for declared majors and minors per the *Undergraduate Course Catalog* (i.e., courses not listed as "core requirements")
    - Summer School courses
    - An honors seminar or honors course
    - Courses taken via interinstitutional enrollment

Maintained by the Educational Policy Committee. Last approved on April 28, 2023.
For more information, see UPM #24 (https://registrar.unc.edu/academic-services/policies-procedures/university-policy-memorandums/upm-24-the-grading-system/).

Temporary Grades (IN and AB) and FA Grades

Any student who ceases to attend a class without officially being dropped or withdrawn may receive a temporary grade of AB or IN or a permanent grade of FA.

Students who do not complete all requirements in a course by the end of the semester, but who could pass the course if they did, receive a temporary grade of IN (incomplete) or AB (absent from the final exam) in place of a permanent letter grade. Grades of IN and AB do not affect grade point average. Students who do not complete the course requirements within a specified period of time are assigned permanent F* grades on their academic transcripts by the Office of the University Registrar.

The instructor must report the grade of AB for any student who did not take the final examination and who, by taking the final examination, could pass the course. This AB grade later converts to an F* unless the student arranges to take the final examination before the last day of finals of the next regularly scheduled semester (fall or spring). If the student cannot pass the course regardless of a final examination performance, the instructor must report the grade FA. The grade of FA (cannot pass the class) is a permanent failing grade. A grade of F may be assigned instead of a temporary grade or a grade of FA when a final examination is not required in the course.

The grade IN may only be assigned by an instructor to a student who took the final examination in a course but did not complete some other course requirement (including signing the honor pledge) and who, by virtue of completing that missing work, might pass the course. Unless removed before the last day of finals of the regularly scheduled semester (fall or spring) following its assignment, an IN converts to an F*.

Absence from a final examination may be officially excused only by the student's dean or the director of Campus Health Services or Counseling and Psychological Services. Please see "Final Examinations" above for information about final examination excuses.

Important Rules and Procedures Pertaining to AB and IN Grades

The decision to report an IN grade is solely the responsibility of the course instructor; however, a student may present proper justification for the instructor's consideration.

Temporary grades should be cleared by completing the work outstanding, preferably no later than the start of the following semester. The deadline for clearing a temporary grade of AB or IN is the last day of finals for the next regularly scheduled semester or the instructor-provided deadline, whichever is earlier.

If students intend to remove IN or excused AB grades, they should not officially enroll in the course(s) during the next semester or summer session. If recommended by the course instructor, a student may attend by officially auditing a part of that instructor's section of the course or another instructor's section of the same course in which the temporary grade was awarded.

Students cannot be cleared for graduation or certificate completion if a temporary grade (AB, IN, NG, NR, SP) is posted for any course.

If a student enrolls in a course in which a temporary grade has been previously received, the second enrollment is taken as evidence that the student could not or is not permitted to remove the temporary grade. This results in replacing the temporary grade by F* after the deadline for removing the temporary grade. The grade earned during the second enrollment is also reported on the student's academic transcript and is used along with the F* grade in the computation of a cumulative grade point average.

Other Grades and Notations

A notation of BE (by examination) is entered in the grade column of academic transcripts if students are awarded credit for a course as a result of evaluation by departmental, Advanced Placement, International Baccalaureate, or SAT II Subject Test examinations. BE credit confers credit hours and can be used to fulfill General Education requirements. For first-time, first-year students entering UNC–Chapel Hill in fall 2009 or thereafter, no more than two courses (six to eight credit hours) of BE credit can be applied to a major and no more than one course (three to four credit hours) of BE credit can be applied to a minor in the College of Arts and Sciences. BE credit may not be used to satisfy cumulative grade point average requirements for majors or minors.

A notation of NG (no grade) is not used by individual instructors but rather is assigned by the Office of the University Registrar when a permanent grade is pending a judicial review by the Honor Court.

A notation of PL (placement) is entered in the grade column of academic transcripts if students are awarded exemption for a course as a result of an evaluation that would ordinarily place them in a succeeding course. PL does not confer credit hours.

There are some courses for which only a grade of PS (pass) or F (fail) can be awarded. For most other courses, students may opt to take a class on a Pass/Fail basis.

A grade of SP (satisfactory progress) may be used in the first course of a departmental undergraduate honors program. The honors program runs through two semesters, and a final grade is not reported until completion of the second course. When the final grade is reported, the previously assigned SP grade must be changed to the appropriate permanent letter grade by an official grade change form. Credit hours are awarded for the first honors course only after a letter grade replaces the SP grade. An SP grade is not computed in the grade point average.

A notation of W (withdrawn) is entered in the grade column of academic transcripts if students are permitted by their school to drop a course after the eighth week of classes or proportional equivalent for summer terms and other nonstandard enrollment periods. This notation is automatically entered unless the student's academic dean specifies otherwise.

When a course is dropped between the second and eighth week of classes, a grade of WC (withdrawal by choice) shall be recorded and used internally for tracking and reporting purposes. For external purposes, a withdrawal by choice is equivalent to the W notation. Once recorded, a WC cannot be rescinded unless it is determined the student withdrawal was due to extenuating circumstances.

A notation of XF is entered to indicate that a student has not passed a course as the result of an Honor Court violation. The grade of XF can be replaced by a final grade of F if the student follows prescribed steps to remediate the violation.

A blank space or a grade of NR (not reported) is shown in the grade column when the instructor has not submitted the official grade for the student.

Repeating Course Enrollments

See Registration, Enrollment, and Withdrawal (p. 812).

Grades Earned at Other Institutions

With the exception of courses taken via interinstitutional registration (p. 812), grades earned and semester hours attempted at other institutions are not included in the computation of a grade point average at the University. A grade point average earned at another university may not be used to restore academic eligibility; however, academic hours earned at another university may be used to restore academic eligibility if the student is lacking only credit hours and has a satisfactory grade point average. Special rules regarding transfer courses apply; see Transfer of Credit (https://catalog.unc.edu/admissions/undergraduate/) and Academic Eligibility (p. 824).

Grade Appeals

The grades of H, HP, P, LP, L, A, A-, B+, B, B-, C+, C, C-, D+, D, PS, F, FA, F*, and numerical grades in the Law School are considered permanent grades. Once reported, the instructor's grade report may not be changed except under certain conditions. For a grade change to be considered, it must be based upon one or more of the following grounds and upon allegation that the ground or grounds cited influenced the grade assignment to the student's detriment:

- **Arithmetic** or clerical error
- **Arbitrariness**, possibly including discrimination or harassment based on the race, color, gender, national origin, age, religion, creed, disability, veteran's status, sexual orientation, gender identity, or gender expression of the student
- **Personal Malice**
- **Honor Court** sanction
- **Harassment**
- **Discrimination**

  The Policy on Prohibited Discrimination, Harassment, and Related Misconduct (https://eoc.unc.edu/our-policies/ppdhrm/) prohibits discrimination or harassment on the basis of an individual's age, color, disability, gender, gender expression, gender identity, genetic information, race, national origin, religion, sex, sexual orientation, or veteran status. The policy provides specific information about prohibited conduct for students who believe that they have been discriminated against or harassed on the basis of one or more of these protected classifications. Students who want additional

information regarding the University's process for investigating allegations of discrimination or harassment should contact the Equal Opportunity and Compliance Office for assistance:

Equal Opportunity and Compliance Office
The University of North Carolina at Chapel Hill
214 W. Cameron Avenue, 2nd Floor
Campus Box 9160
Chapel Hill, North Carolina 27599
Telephone: (919) 966-3576
Email: eoc@unc.edu

Any administrator or supervisor, including a department chair, associate dean or other administrator, who receives a student's complaint about prohibited harassment or discrimination must notify the Equal Opportunity and Compliance Office immediately after receiving the complaint. If a student raises a claim of prohibited harassment or discrimination during an academic appeal, an assessment and/or investigation of the student's claim must be performed under the direction of the Equal Opportunity and Compliance Office. The academic program or school must await the results of the harassment or discrimination assessment and/or investigation before taking action on the student's academic appeal.

A grade appeal must be made no later than the last day of classes for the succeeding fall or spring semester.

Grade Appeals Correcting a Clerical or Arithmetical Error

An instructor who has reported an incorrect grade for a student because of an error in calculating the grade, or in entering it on the official grade roster, may change the grade to one of the other letter grades, provided this change is made no later than the last day of classes of the succeeding fall or spring semester. Grade changes are submitted online using the Grade Change Request process, with electronic approvals required by the instructor, the department chair, and student's dean's office. In the College of Arts and Sciences, dean's office approval is granted by the associate dean for academic advising (https://advising.unc.edu/advisors/) or their designee.

Other Grade Appeals

Any student who protests a course grade shall first attempt to resolve this disagreement with the instructor concerned. (As explained in the preceding paragraph, an instructor may change a permanent grade only when a clerical or arithmetical error is involved.) Failing to reach a satisfactory resolution, the student may appeal the grade in accordance with the procedures outlined below. Such appeal must be made no later than the last day of classes of the succeeding fall or spring semester.

Students should present the appeal in writing to the dean of their school (students in the College of Arts and Sciences must submit it in writing to the associate dean for advising). The dean will refer the appeal to the administrative board of his/her school, which will meet to consider whether the student has offered sufficient grounds for referring the appeal to the chair of the department concerned. If the administrative board determines that further review by the academic department is appropriate, the department chair will then appoint a committee to consider the appeal and will make a recommendation to the administrative board based on the committee's findings. The administrative board will make the final decision, and no change of grade will be made except as a result of the decision by the board. The chair will report such decision to change the grade to the Office of the University Registrar.

ACADEMIC STANDING

Academic Eligibility Policy

For students in the undergraduate career, the University's academic eligibility policy specifies the minimum standards of academic performance required for continued enrollment. These standards apply to undergraduate students enrolled in courses during or after the fall 2016 semester.

Degree-Seeking Programs

To guide students toward timely degree completion, the University maintains academic eligibility standards. These standards are reviewed at the end of fall, spring, summer I, and summer II terms. These standards determine academic status for each undergraduate in a degree-seeking program. Academic status indicates eligibility to enroll in any course in any term including summer. Students must check their academic status in ConnectCarolina at the end of each enrolled fall, spring, or summer term.

Academic status is determined through four standards of satisfactory academic progress:

1. ***Grade Point Average***. A cumulative UNC–Chapel Hill grade point average of at least a 2.000 is required.
2. ***Completion Rate***. Students must successfully complete at least 2/3 of cumulative attempted credit hours. By-Exam (BE) and credits transferred in to UNC–Chapel Hill count as both attempted and completed hours. Withdrawals, temporary grades including AB, IN, or SP, and failed courses count as attempted hours but not completed hours. Divide your completed hours by attempted hours to calculate your completion rate. You need to maintain at least 66% or .667.
3. ***Cumulative Hours Passed****. To enroll in courses, students must have earned the following:

- After one full-time semester: 9 academic hours
- After two full-time semesters: 24 academic hours
- After three full-time semesters: 36 academic hours
- After four full-time semesters: 51 academic hours
- After five full-time semesters: 63 academic hours
- After six full-time semesters: 78 academic hours
- After seven full-time semesters: 93 academic hours

Students are expected to complete their degree within a maximum of eight full-time semesters. Transfer students (who transfer in the UNC–Chapel Hill equivalent of two or more semesters, see "Calculation of Transferred Semesters Based on the Number of Transfer Hours (p. 803)") may enroll in up to 10 total semesters. Students who enter as first years are required to apply for a ninth or tenth semester. For information about the application process, students in professional schools must contact their professional school dean, and students in the College of Arts and Sciences must contact UNC Advising (http://advising.unc.edu).

*Part-time students are excluded from this standard.

4. ***Maximum Time Frame***. Students must complete their degree within 180 attempted credit hours.

There are four **academic statuses**: good standing, warning, suspension, and probation.

Students who meet each of the four standards at the end of an enrolled term will have an academic status of **good standing**.

Students who begin an enrolled term in good standing but do not meet each of the four standards at the end of that enrolled term will receive an academic status of **warning**. Students with a status of warning may enroll in courses and must complete an academic intervention plan (http://studentsuccess.unc.edu/warning/).

A student who begins an enrolled term with a status of warning and falls short of the standards at the end of that enrolled term will earn an academic status of **suspension**. Students with an academic status of suspension cannot enroll in any courses in any terms. Students with an academic status of suspension have two options:

a. Appeal for **probation**. Students granted academic probation by appeal must complete an academic intervention plan (http://studentsuccess.unc.edu/academic-probation-3/). Students denied probation by appeal can pursue option b.

b. Spend a term engaging in study, work, or wellness activities away from UNC–Chapel Hill. These opportunities could include coursework at another institution, employment, volunteer work, or healthcare or wellness activities. During this time students should reflect on their academic path, development, choices, and actions. Students should also implement strategies that will enhance their effectiveness upon return to the University. After a term away from the University, students who have engaged in study, work, or wellness activities may appeal to return to the University on probation. Students appealing after a term or longer away from the University must include documentation of their experiences while away such as a transcript from another institution, a letter from an employer, or a letter from a healthcare provider. These documents must convey evidence of the student's readiness to return to the University.

A student who begins an enrolled term with a status of probation and falls short of the standards at the end of that enrolled term will earn an academic status of **suspension**. Students with an academic status of suspension have two options (see above).

Repeats, Withdrawals, and Incompletes

Attempted hours include all those in which a student is enrolled as of the end of the second week of each fall or spring term (the 10th day of the term, generally known as the "census date"). Students may drop a course until the 10th day of the term. Dropped courses do not count in attempted hours.

The summer schedule is similar to fall/spring but is determined according to the summer calendar. Credit hours that are dropped or withdrawn prior to the census date are not considered attempted; credit hours that are dropped or withdrawn after the census date *are* considered attempted.

Repeated courses affect grade point average and Completion Rate.

Transfer hours do not affect grade point average. Transfer hours are added to both completed hours and attempted hours in the Completion Rate calculation.

Courses with temporary grades of IN or AB do not affect grade point average. If a grade of IN or AB is converted to a passing grade, grade point average will be recalculated accordingly.

Withdrawn courses do not affect grade point average. Withdrawn courses are NOT considered a successful completion, though, and will adversely affect Completion Rate.

Failed courses influence grade point average. A failed course will also adversely affect Completion Rate, counting as attempted hours but not completed hours.

Overview of Academic Status

Entering Academic Status	Term Performance	New Academic Status
Good	Meets all 4 standards	Good (may enroll)
Good	Does not meet all 4 standards	Warning (may enroll; must complete academic intervention plan)
Warning	Meets all 4 standards	Good (may enroll)
Warning	Does not meet all 4 standards	Suspension (may not enroll; may pursue options a or b for suspension status)
Probation	Meets all 4 standards	Good (may enroll)
Probation	Does not meet all 4 standards	Suspension (may not enroll; may pursue options a or b for suspension status)

Academic Eligibility Policy for Non-Degree-Seeking Programs

For non-degree-seeking students there are three academic statuses: good standing, alert, and ineligible. A non-degree-seeking student with a 2.000 or higher cumulative grade point average will be in good standing and eligible to enroll in courses. If a non-degree-seeking student falls below a 2.000 cumulative grade point average, the student will be assigned a status of alert. A non-degree-seeking student who begins a term with a status of alert and does not raise his or her cumulative grade point average to 2.000 or higher at the end of the term will have an academic status of ineligible and will not be permitted to enroll in courses. Non-degree-seeking students with a status of ineligible may appeal to Digital and Lifelong Learning (https://fridaycenter.unc.edu/students/non-degree-studies/enrollment/).

Appeals

Students may, under extraordinary circumstances, present an appeal in writing (or online for students in the College of Arts and Sciences) to the dean of their school (for students in the College of Arts and Sciences, this is the associate dean for advising). The dean will refer the appeal to the administrative board for his/her school.

Calculation of Transferred Semesters Based on the Number of Transferred Credit Hours

See the Credit and Evaluation (p. 803) section of the catalog.

Additional Information for Students with an Academic Status of Suspension

- If students earn 15 or more transfer semester credit hours for courses taken at other institutions cumulatively over the fall or spring semesters before applying for readmission to the University, a calculation will be made as to how many semesters the student is regarded as having completed, based on the number of hours accepted for transfer credit. The resulting tally of total semesters completed will determine requirements for restoring academic eligibility.
- Students should consult their academic advisor if they are considering taking classes at another institution. Grades do not transfer, and credit hours accumulated through enrollment in fall and spring semesters at other schools can affect the number of remaining semesters that students have left to complete their degree requirements at UNC–Chapel Hill.
- Students who attend another institution (summer, fall, or spring), and who apply for readmission must have at least a 2.000 (C) average in work at the other institution.
- Students who have a housing assignment or contract for the following semester should either cancel their application/contract or notify the University's Department of Housing and Residential Education of their intention to restore academic eligibility before the following semester begins.

Students who are inactive during a semester because of ineligibility (or other reasons) must apply for readmission before registering for a full-time term.

Removing AB or IN Grades

For information about completing courses with grades of AB (absent from the final examination) or IN (incomplete), see the grading system information (p. 817).

UNIVERSITY POLICIES

Regulations and Policies

The University of North Carolina at Chapel Hill ("University" or "UNC–Chapel Hill") has established regulations and policies to promote a safe and supportive learning environment. These regulations and policies cover a wide range of non-academic issues. They explain expectations for students and establish procedures for addressing situations covered by their terms.

Authority for Student Affairs, Conduct, and Discipline at UNC–Chapel Hill

Section 502D(3) (https://www.northcarolina.edu/apps/policy/doc.php?type=pdf&id=57) of the University of North Carolina Code establishes that, subject to policies or regulations of the Board of Governors or the Board of Trustees, UNC–Chapel Hill's chancellor has full authority over student affairs and student conduct and discipline at the University. The chancellor may delegate this authority to faculty committees, administrators, or student government bodies as necessary. In fulfilling this responsibility, the chancellor must ensure that every student's right to due process is protected.

Code of the University of North Carolina

Section 502D(3)—Subject to any policies or regulations of the Board of Governors or of the Board of Trustees, it shall be the duty of the chancellor to exercise full authority in the regulation of student affairs and student conduct and discipline. In the discharge of this duty, delegation of such authority may be made by the chancellor to faculty committees and to administrative or other officers of the institution, or to agencies of student government, in such manner and to such extent as may by the chancellor be deemed necessary and expedient. In the discharge of the chancellor's duty with respect to matters of student discipline, it shall be the duty of the chancellor to secure to every student the right to due process. Appeals from these disciplinary decisions are allowable only on the following grounds:

1. a violation of due process, or
2. a material deviation from the Minimum Substantive and Procedural Standards for Student Disciplinary Procedures, Section 700.4.1 of the UNC Policy Manual.

Where the sanction is suspension or expulsion, an appeal may be made to the Board of Trustees. No appeal to the president or Board of Governors is permitted.

Whistleblower Policy

The purpose of this policy is to encourage individuals to report possible wrongful conduct to an appropriate authority so that prompt, corrective action can be taken by the University and to protect reporting individuals from any retaliation for reporting wrongful conduct. Please see the full text of the Whistleblower Policy (https://policies.unc.edu/TDClient/2833/Portal/KB/ArticleDet/?ID=131868) on the University's policy website (https://policies.unc.edu/TDClient/2833/Portal/Home/).

Accommodations Policy

The University is committed to providing a welcoming environment for all members of our community. As part of this commitment, the University provides reasonable accommodations for disability, pregnancy, and related medical conditions, and sincerely-held religious beliefs and practices consistent with federal and state law.

This policy is grounded in the Americans with Disabilities Act of 1990, the Americans with Disabilities Amendments Act of 2008, Title VII of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, the PUMP for Nursing Mothers Act, the Pregnant Workers Fairness Act, and related state laws. Please see the full text of the Accommodations Policy (https://policies.unc.edu/TDClient/2833/Portal/KB/ArticleDet/?ID=131715) on the University's policy website (https://policies.unc.edu/TDClient/2833/Portal/Home/).

Religious Accommodation Policy

The University is committed to providing a welcoming environment that is respectful of the religious beliefs and practices of all members of the University community. As part of this commitment, the University will make good faith efforts to provide reasonable religious accommodations to individuals covered by this policy whose sincerely held religious beliefs and practices conflict with a University policy, procedure, or other academic or employment requirement unless such an accommodation would create an undue hardship. Please see the full text of the Accommodations Policy (https://policies.unc.edu/TDClient/2833/Portal/KB/ArticleDet/?ID=131715) on the University's policy website (https://policies.unc.edu/TDClient/2833/Portal/Home/).

The University is committed to nondiscrimination and supports the employment of all qualified individuals, regardless of religious affiliation or beliefs. This commitment is in accordance with state and federal laws and regulations, including Title VII of the Civil Rights Act of 1964 and its accompanying regulations, as well as the Equal Employment Opportunity Commission's Guidelines on Discrimination Because of Religion, and North Carolina General Statute § 116-11(3a).

Alcoholic Beverages

Federal, state, and local laws and ordinances substantially regulate the possession and use of alcoholic beverages. Within this legal framework, the University's Alcohol Policy (https://policies.unc.edu/TDClient/2833/Portal/KB/ArticleDet/?ID=132458) explains the conditions under which alcoholic beverages may be used on University property.

Consistent with North Carolina law:

• No person under 21 may purchase or possess any alcoholic beverage. (N.C. General Statute 18B-302)

• It is against the law for anyone to sell or give any alcoholic beverage to a person under 21 or to aid or abet such a person in selling, purchasing, or possessing any alcoholic beverage. (N.C. General Statute 18B-302)

• No alcoholic beverages may be sold by any person, organization, or corporation on a college campus except as permitted by N.C. General Statute 18B-1006 (a).

By Chapel Hill ordinance 3-3 (https://library.municode.com/nc/chapel_hill/codes/code_of_ordinances/?nodeId=PTIICO_CH3ALBE_S3-3POOPCOMABEUNWISTSIMUPALOANREESBUOWOCT it is against the law for anyone to possess any open container of alcohol on streets, sidewalks, alleys, or any other property owned or controlled by the Town of Chapel Hill.

The University's Alcohol Policy sets out specific requirements relating to the service or use of alcohol by students and student organizations or in connection with University-sponsored events. The Procedure for Requesting Permission to Serve Alcoholic Beverages at University-

Sponsored Events (https://policies.unc.edu/TDClient/2833/Portal/KB/ArticleDet/?ID=138011) describes how University departments and units may request permission to serve alcohol at University-sponsored events. The Student Conduct Procedures of the University of North Carolina at Chapel Hill describes the procedural rights, administrative processes, sanctions, and appeal process for students and student organizations accused of violating the University's Alcohol Policy. The text of the policy and procedures can also be accessed on the University's policy website (https://policies.unc.edu/TDClient/2833/Portal/Home/).

Illegal Drugs Policy

The University's Illegal Drugs Policy (https://policies.unc.edu/TDClient/2833/Portal/KB/ArticleDet/?ID=132140) addresses education, counseling, and rehabilitation to help all members of the University Community avoid involvement with illegal drugs and promote a drug-free campus. The policy also describes enforcement and penalties, consistent with state and federal law, to eliminate illegal drugs from the University community. Please see the full text of the Illegal Drugs Policy on the University's policy website (https://policies.unc.edu/TDClient/2833/Portal/Home/).

Commercial Activities

Commercial exchanges, including selling or soliciting for the sale of goods or services by any person on the campus of the University, are prohibited except as described in the Facilities Use Policy (https://policies.unc.edu/TDClient/2833/Portal/KB/ArticleDet/?ID=131343).

Behavioral Threat Assessment

The Student Code of Conduct (https://policies.unc.edu/TDClient/2833/Portal/KB/ArticleDet/?ID=152440) and accompanying Student Conduct Procedures (https://policies.unc.edu/TDClient/2833/Portal/KB/ArticleDet/?ID=152518) regulate student discipline. The University must occasionally handle situations urgently when the behavior of students or applicants for admission poses some danger to the University and/or members of the University community. To address these situations and to fulfill the University's obligation to provide a safe campus, the University has adopted a Behavioral Threat Assessment Policy. Additional information may be found on the Dean of Students website (https://dos.unc.edu/urgent-concerns/). The full text of the Committee's policies and procedures is on the University's policy website (https://policies.unc.edu/TDClient/2833/Portal/Home/).

Equity in Athletics Disclosure Act

The Equity in Athletics Disclosure Act (https://www.ed.gov/laws-and-policy/higher-education-laws-and-policy/policy-initiatives/equity-in-athletics-disclosure-act/) is a federal law that requires universities and colleges to make available gender equity information about their athletic programs. Information compiled under the Equity in Athletics Disclosure Act is available on the U.S. Department of Education's Equity in Athletics Data Analysis (https://ope.ed.gov/athletics/#/institution/search) website.

Expulsion

Per UNC System Policy 700.4.3[G], a student expelled from one constituent institution may not be admitted to another constituent institution of the University, unless and until the sanction of expulsion has been rescinded by the institution that imposed the sanction.

Faculty-Led Off-Campus Domestic Academic Travel

Faculty members who want to have academic travel as part of their class must inform prospective students about the mandatory academic travel before course enrollment. For mandatory or optional travel, faculty must also give students an instructional agenda and itinerary two weeks (14 calendar days) before the academic travel including:

1. Time and location of the academic travel,
2. A detailed description of the activity, and
3. Any cost that is the student's responsibility.

Faculty are encouraged to provide enough detail in the description to help participants understand potential risks. Please refer to the Policy on Faculty-Led Off-Campus Domestic Academic Travel (https://policies.unc.edu/TDClient/2833/Portal/KB/ArticleDet/?ID=150069) for additional information. Please see the full text of the Faculty-Led Off-Campus Domestic Academic Travel Policy (https://policies.unc.edu/TDClient/2833/Portal/KB/ArticleDet/?ID=150069) on the University's policy website (https://policies.unc.edu/TDClient/2833/Portal/Home/).

Fireworks, Firearms, and Other Weapons

Per N.C. General Statute 14.269.2(b) and (b1), it is a felony, punishable by fine and/or imprisonment, to possess or carry, openly or concealed, any gun, rifle, pistol, or other firearm of any kind, or any dynamite cartridge, bomb, grenade, mine, or powerful explosive on any University campus, in any University-owned or operated facility, or at a curricular or extracurricular activity sponsored by the University. Such conduct is also a violation of the Student Code of Conduct.

Per N.C. General Statute 14.269.2(k1) and (k2), a person who has a concealed handgun permit that is valid under North Carolina law, or who is exempt from obtaining a permit according to North Carolina law, may have a handgun in a closed compartment or container within the person's locked vehicle or in a locked container securely affixed to the person's vehicle. A person may unlock the vehicle to enter or exit the vehicle provided the firearm remains in the closed compartment at all times, and the vehicle is locked immediately following the entrance or exit.

Per N.C. General Statute 14.269.2(e), it is a Class 1 misdemeanor, punishable by fine and/or imprisonment, to possess or carry, whether openly or concealed, any BB gun, stun gun, air rifle, air pistol, bowie knife, dirk, dagger, slingshot, leaded cane, switchblade knife, blackjack, metallic knuckles, razors and razor blades (except for personal shaving), fireworks, or any sharp-pointed or edged instrument (except instructional supplies, unaltered nail files, and clips and tools used solely for preparation of food, instruction, and maintenance) on any University campus or in any University-owned or operated facility. Such conduct is also a violation of the Student Code of Conduct.

Housing and Residential Education

For policies and procedures related to living on campus, visit the Housing and Residential Education (https://housing.unc.edu/important-information/housing-contract/) website.

Immunization Requirement

All new and transfer students must submit documentation of immunizations (https://campushealth.unc.edu/services/immunizations/) required under N.C. General Statute 130A-155.1. Students previously enrolled at UNC–Chapel Hill are not required to resubmit immunization documentation.

Per N.C. General Statute 130A-155.1(a), students will be withdrawn from the University 30 calendar days after classes begin if immunization requirements have not been met.

Interpersonal Relationships among Faculty, Staff, and Students

The University of North Carolina Board of Governors adopted a system-wide policy (300.4.1) that prohibits amorous or sexual relationships between faculty or staff employees and

1. students they evaluate or supervise by virtue of their teaching, research, administrative, or other employment responsibility and
2. students who are minors below the age of 18.

The policy also states that faculty or staff employees may not supervise or evaluate students to whom they are related by blood, law, or marriage. Please see the full text of the Nepotism and Interpersonal Relationships Policy (https://policies.unc.edu/TDClient/2833/Portal/KB/ArticleDet/?ID=153293)on the University's policy website (https://policies.unc.edu/TDClient/2833/Portal/Home/).

Policy on Prohibited Discrimination, Harassment, and Related Misconduct

The University is committed to providing a welcoming environment for all members of our community. It is firmly committed to maintaining a campus environment free from discrimination, harassment, and related misconduct.

In accordance with its Policy Statement on Nondiscrimination, the University does not unlawfully discriminate in offering equal access to its educational programs and activities or with respect to employment terms and conditions on the basis of an individual's age, color, disability, gender, gender expression, gender identity, genetic information, race, national origin, religion, sex, sexual orientation, or veteran status (collectively referred to as "protected status"). The University's protection of these statuses is grounded in federal law.

Federal law also governs the University's response to sexual assault, sexual violence, interpersonal violence (including domestic and dating violence), and stalking. Such acts violate the essential dignity of our community member(s) and are contrary to our institutional values. Please see the full text of the Policy on Prohibited Discrimination, Harassment and Related Misconduct (https://policies.unc.edu/TDClient/2833/Portal/KB/ArticleDet/?ID=132487) and the Policy Statement on Non-discrimination (https://policies.unc.edu/TDClient/2833/Portal/KB/ArticleDet/?ID=131717) on the University's policy website (https://policies.unc.edu/TDClient/2833/Portal/Home/).

Gender-Inclusive Language Policy

The University is committed to providing a welcoming environment for all members of our University Community. Consistent with that commitment, gender-inclusive terms (chair; first-year student; upper-level student, etc.) should be used on University documents, websites, and policies.

A guidance handout ("Gender-Inclusive Language (https://writingcenter.unc.edu/tips-and-tools/gender-inclusive-language/)") may be found on the UNC Writing Center website. Please see the full text of the Gender-Inclusive Language Policy (https://policies.unc.edu/TDClient/2833/Portal/KB/ArticleDet/?ID=132161) on the University's policy website.

Out-of-State Disclosures for Distance Education Programs

Disclosure for Indiana Residents Enrolled in UNC–Chapel Hill Distance Education Programs

The University of North Carolina at Chapel Hill is authorized by The Indiana Board for Proprietary Education, 101 W. Ohio St., Suite 670, Indianapolis, IN 46204.

Disclosure for Louisiana Residents Enrolled in UNC–Chapel Hill Distance Education Programs

The University of North Carolina at Chapel Hill is currently licensed by the Board of Regents of the State of Louisiana. Licenses are renewed by the State Board of Regents every two years. Licensed institutions have met minimal operational standards set forth by the state, but licensure does not constitute accreditation, guarantee the transferability of credit, nor signify that programs are certifiable by any professional agency or organization.

Disclosure for Minnesota Residents Enrolled in UNC–Chapel Hill Distance Education Programs

The University of North Carolina at Chapel Hill is registered as a private institution with the Minnesota Office of Higher Education pursuant to sections 136A.61 and 136A.71. Registration is not an endorsement of the institution. Credits earned at the institution may not transfer to all other institutions.

Disclosure for Washington Residents Enrolled in UNC–Chapel Hill Distance Education Programs

The University of North Carolina at Chapel Hill is authorized by the Washington Student Achievement Council and meets the requirements and minimum educational standards established for degree-granting institutions under the Degree-Granting Institutions Act. This authorization is subject to periodic review and authorizes The University of North Carolina at Chapel Hill to advertise, recruit, and offer field placements for specific degree programs. The council may be contacted for a list of currently authorized programs. Authorization by the Council does not carry with it an endorsement by the Council of the institution or its programs. Any person desiring information about the requirements of the act or the applicability of those requirements to the institution may contact the Council at P.O. Box 43430, Olympia, WA 98504-3430.

Family Educational Rights and Privacy Act

As a general rule, under the federal Family Educational Rights and Privacy Act (FERPA), personally identifiable information may not be released from a student's education records without his or her prior written consent.

To learn more about FERPA, please visit these links:

UNC–Chapel Hill FERPA Policy (https://policies.unc.edu/TDClient/2833/Portal/KB/ArticleDet/?ID=132164)
UNC–Chapel Hill Registrar's website (https://registrar.unc.edu/academic-services/uncferpa/)

TRANSCRIPTS

Conferral of Degrees

The University of North Carolina at Chapel Hill confers degrees three times a year, each May, August, and December, to students who have completed all degree requirements. Students must apply to graduate on a degree award date through ConnectCarolina no later than the last day of classes of that term.

A degree cannot be awarded to a student who does not meet requirements by the conferral deadline, such as:

- Has any temporary grade on their academic record; this includes but is not limited to non-permanent grades: AB, IN, NG, NR, SP.
- Has pending credits to be approved and posted to their academic record (even if not required for graduation); this includes but is not limited to:
  - Credit earned while studying abroad
  - Transfer credit
  - Interinstitutional credit
  - Robertson Scholars credit
  - UNC Online credit

Students with temporary grades or pending credits not resolved within 60 days of the degree award date must request a subsequent graduation. The degree is conferred following completion of requirements at a later date. A degree will not be awarded retroactively.

Adjustments may be made to a transcript only for one year following the date of graduation. For instance, grade appeals can be initiated after graduation. However, graduation with distinction or highest distinction is based only on the grade point average at the time that the degree is conferred. In such indications of a second major or minor can be added to the transcript within one year after the degree conferral date for students who neglected to declare a second major or a minor prior to graduation, provided that all requirements were completed at the time of graduation.

Transcripts of Record

A statement of official academic record includes all significant recorded information concerning the student's admission, classification, and scholarship. No partial or incomplete scholastic record will be given.

The student's transcript notes his or her academic eligibility status. A statement of honorable dismissal will not be granted to students whose conduct and character would not entitle them to remain enrolled at the University or whose transcripts contain a notation of any probation, suspension, or other temporary restriction imposed for unsatisfactory conduct and still in force when the statement is made.

The University does not release an official transcript unless tuition, fees, and other obligations due the University have been paid. Students may order a transcript electronically through the link in their ConnectCarolina Student Center. This process provides an electronic authorization that allows the Office of the University Registrar to release the transcript at the student's request. Students may inspect their academic records at the Office of the University Registrar, Student and Academic Services Building North. For more information on how to request a transcript, please visit the Office of the University Registrar's website (http://registrar.unc.edu/academic-services/transcripts-certifications/order-a-transcript/).

Policy on Awarding of Undergraduate Degrees and Transcript Notations

The University of North Carolina at Chapel Hill will award only one bachelor's degree to a student, regardless of a possible second-major declaration, and will not award a degree to a student who has already earned a bachelor's degree through another school of the University or at another college. Undergraduates in professional schools may earn a second major (not a second degree) in the College of Arts and Sciences or another professional school, but the first major must be in the professional school. Exception: After receiving a bachelor's degree a student may be admitted to and earn a second bachelor's degree from one of the health profession schools at the University. Under no circumstances can a second undergraduate degree be awarded after one has been earned in one of the health professions.

Students pursuing two major fields of study for the bachelor of arts or bachelor of science degree earn only one degree and receive only one diploma. Both the diploma and the official transcript will indicate the degree and the two majors.

Students completing the requirements for both a bachelor of science degree and a bachelor of arts degree earn only the bachelor of science degree and receive only that diploma. Students completing the requirements for both a bachelor of arts degree and a bachelor of fine arts or bachelor of music degree earn only the bachelor of fine arts or bachelor of music degree and receive only that diploma. Note that these students must complete General Education requirements pertinent to the bachelor of arts as well as all requirements for the bachelor of fine arts or bachelor of music degree. Both the diploma and the official transcript will indicate the degree (with its major) and the second major.

Related Policies

Under no circumstances can a second undergraduate degree be awarded in Academic Affairs after one has been earned in Health Affairs. In the rare instance that an undergraduate student completes the requirements for an undergraduate degree and a graduate degree at the same time, the two degrees cannot be awarded at the same graduation. The undergraduate degree must be awarded first, and the graduate degree awarded at a subsequent degree award date.

Students who apply to graduate on a given degree award date, but who must complete requirements (such as courses with grades of IN or AB) after that degree award date, must reapply to graduate on a degree award date that follows the actual completion of requirements. Coursework taken after the degree award date cannot be used to change a degree already awarded, or to complete retroactively a degree, or to add retroactively an additional major or minor.

Adjustments may be made to a transcript only for one year following the date of graduation. Grade appeals, for instance, can be initiated after graduation. Courses with temporary grades not affecting graduation (AB or IN) can be completed after the date of graduation and the grade point average changed accordingly; however, the student's status at the time of graduation is not affected. Graduation with distinction or highest distinction is based only on the grade point average at the time that the degree is officially conferred and posted on the academic transcript, and may not be awarded retroactively. Students who neglect to declare a second major or a minor at the time of graduation may request that the dean's office verify that the requirements had been satisfied at the time of

graduation. In such cases, indication of the second major or minor can be added to the transcript within one year after the graduation date.

Posthumous and Memorial Degree

In the unfortunate event of a recently enrolled student death, the University may award a degree posthumously or a memorial degree of achievement to the next of kin of the decedent.The following criteria are used to determine awarding a degree posthumously and it is included in the official degree count. Detailed information on the criteria for awarding of a posthumous degree or memorial degree of achievement are in UPM#13 Authorized Degrees, Major Fields in (https://registrar.unc.edu/upm-13/)E (https://registrar.unc.edu/upm-13/)ach Degree, and Assigned Code Numbers (https://registrar.unc.edu/upm-13/).

Undergraduate Students

Upon the recommendation of the Dean of Students Office in conjunction with the dean's office of the student's academic college/school, a posthumous degree may be awarded to a deceased undergraduate student if the student was in good academic standing and at least 90 percent of academic requirements for earning the degree are already completed. This is typically in the last two semesters or year of study for undergraduate degrees.

Graduate and Professional Students

Upon the recommendation of the Dean of Students Office in conjunction with the dean's office(s) of the student's academic college/school(s), a posthumous degree may be awarded to a deceased graduate or professional student if the student was in good academic standing and significant progress had been made toward academic requirements for earning the degree. For graduate and professional degrees this can vary but generally the following considerations apply:

- For degrees requiring a#research or other creative/practicum activity, the student must have#completed all course and other requirements pursuant to the degree and must#have been near completion of the dissertation/thesis/substitute product; and the student's committee#must have determined the scholarship to be substantial work and worthy of the#degree.
- For degrees requiring primarily coursework, at least 90 percent of academic requirements for earning the degree are already completed. This is typically in the last two semesters or year of study.

Memorial Degree of Achievement

If requirements for awarding the degree posthumously are not met, the University may issue a memorial degree of achievement. This is neither recorded as an official degree nor included in the official degree count. The Dean of Students Office, in conjunction with the academic college/school of the student, issues this memorial degree of achievement#to honor the memory of the deceased student's contributions to the UNC–Chapel Hill academic community.

Certificate of Achievement

In circumstances when awarding a degree is not appropriate, the University can issue a certificate of achievement recognizing a former student. The Dean of Students office determines if a situation warrants issuing this recognition. This is neither recorded as an official certificate nor included in the official certificate count.

TUITION AND FINANCIAL AID

Student Finances

Billing Policies

Charges for tuition and fees, on-campus housing, and meals are assessed on a semester basis. Billing statements will only be available online through the ConnectCarolina Student Center. Students are responsible for accessing their statements online and insuring they are paid on time.

Any past due charges will result in a hold on registration, diploma, and/or transcripts. Students must pay past due balances from prior terms before they will be allowed to register for future semesters. Students registering after the first tuition bill of the semester must either prepay tuition and fees or provide documented eligibility of financial aid to the Office of the University Cashier.

Students who are receiving financial aid are eligible to request a student aid deferment to extend their payment due date until after the initial financial aid disbursement of the semester. Deferments (https://cashier.unc.edu/payment-options/financial-aid/) can only be requested in ConnectCarolina by the student before the due date on the first bill of each semester.

It is extremely important for students to refer to the Office of the University Cashier website (http://cashier.unc.edu/) prior to each term for announcements and up-to-date information, and to follow instructions concerning payment/deferment due dates to avoid registration cancellation.

Tuition and Fees

Tuition and fees (http://cashier.unc.edu/tuition-fees/) for each academic year, including detailed information about the mandatory student fees, (http://cashier.unc.edu/tuition-fees/student-fees/) are published on the Office of the University Cashier website. Additional fees such as incoming student, special laboratory, and other designated program and course fees also may be charged.

A late registration fee of $20 is charged for registration on or after the first day of class for a term.

Proxy and Authorized User Access

Federal law (FERPA (http://registrar.unc.edu/academic-services/uncferpa/#details-0-0)) restricts access to student information. Proxy and/or Authorized User Access (https://ccinfo.unc.edu/give-proxyauthorized-users-access-information-2-2/) is for anyone the student authorizes to access and/or discuss the student account. Only authorized users have access to view the billing statements and make payments online.

Payment Options

Payments can be made in person at the Office of the University Cashier, through the mail, or by check or credit card online. For up-to-date information on payment options, please visit the payments section (http://cashier.unc.edu/payment-options/) of our website. Our returned check fee is $35.

Each student is responsible for payment of his or her University charges. If a third party sponsor will be paying the charges, the Office of the University Cashier must receive a written authorization from the third party well in advance so that a separate invoice can be sent to the proper agency or organization in order to ensure timely payment.

Financial Aid Refunds

The Office of the University Cashier encourages students who are receiving financial aid in excess of tuition, fees, housing, and meal plan costs to sign up for eRefunds (https://cashier.unc.edu/wp-content/uploads/sites/259/2016/05/setting-up-an-electronic-refund-account-for-student-account-refunds.pdf) as soon as possible. Excess funds from the account will be deposited to either a checking or savings account at the student's bank. Students should also promptly update their eRefund information if there are any changes to their banking information.

Drop/Withdrawal Policies for Tuition and Fees

The last day to reduce a course load for credit on a student's financial account is the tenth day of the semester, commonly referred to as the "census date." Dropping the only course a student is registered for requires an official withdrawal.

In case of withdrawal from the University, tuition and fees will be prorated according to the withdrawal refund calendar posted on the Important Dates (http://cashier.unc.edu/tuition-fees/important-dates/) section of our website for that semester. The last date for credit on a student's financial account for withdrawal is nine weeks after the first day of classes for the fall and spring semesters. If a student drops the only course he or she is taking, this constitutes a withdrawal from the University.

Tuition Guarantee Program

Under a North Carolina state law effective fall 2016, students classified as North Carolina residents for tuition purposes in undergraduate degree programs at UNC system schools are eligible for fixed (or guaranteed) tuition for up to eight consecutive semesters (or ten semesters, if enrolled in an approved five-year program). Further information about the Tuition Guarantee Program can be found on the website for the Office of the University Registrar (http://registrar.unc.edu/academic-services/policies-procedures/student-rights/guaranteed-tuition/).

Scholarships and Financial Aid

For Undergraduates

The University works to keep Carolina affordable for all students. Scholarships, grants, loans, and work-study funds are offered to help eligible students with their financial needs.

Detailed information on scholarships and student aid can be found on the Office of Scholarships and Student Aid (https://studentaid.unc.edu/) website. You are also welcome to email help@studentaid.unc.edu. We are here to help!

Applying for Financial Aid

To apply for financial aid:

- Complete the Free Application for Federal Student Aid (FAFSA) (http://fafsa.ed.gov)
  UNC school code 002974
- • Complete the CSS Profile (https://cssprofile.collegeboard.org/) (incoming first-degree seeking students only, for University grants and scholarships)
  UNC school code 5816
- Monitor UNC email and regularly check ConnectCarolina (http://connectcarolina.unc.edu) for updates.

If we need more information, we will notify you by email.

Aid is an annual process, so returning students should complete the FAFSA each year. The application is available beginning October 1 each year. You should apply as early as possible, even before admission to Carolina in the case of new students. You only need to complete the CSS Profile as an incoming first degree-seeking student one time. Although you should apply prior to admission, aid offers will not be released until you are formally admitted.

Aid Offers

Financial aid offers are generally released in early February for returning students. Admitted students will get aid offers shortly after they are admitted.

Types of Need-Based Financial Aid

Scholarships, grants, and work-study do not have to be repaid; loans require repayment. Aid offers will include self-help first (need-based loans, and work-study if eligible) with remaining need met through grants and/or scholarships. Graduate and professional students will receive loan offers to meet any eligibility remaining after awards from schools or departments.

You can always reduce or choose not to borrow offered loans, so budget carefully before borrowing. To get an idea of your borrowing needs, use our budgeting calculator (https://studentaid.unc.edu/2023/01/26/budgeting-calculator-instructions/).

Eligibility for Need-Based Financial Aid

To be eligible for financial aid, a student must be enrolled and making satisfactory academic progress in a degree or eligible certificate program. Information about the Satisfactory Academic Progress Policy (https://studentaid.unc.edu/current/sap/) can be found on the Office of Scholarships and Student Aid website.

You can find additional eligibility information (https://studentaid.unc.edu/current/how-to-apply/) on the website on the How to Apply page.

The Carolina Covenant

Covenant scholars can graduate debt-free through a combination of scholarships, grants, and work-study. Covenant scholars also have access to faculty and staff mentors, enrichment activities, and other support services.

The Carolina Covenant is offered to eligible undergraduates who have a family income at or below 200 percent of the federal poverty level and limited assets. No special application is necessary; eligible students will be notified after applying for financial aid and being admitted. Details are on the Carolina Covenant website (https://studentaid.unc.edu/incoming/what-aid-is-available/carolina-covenant/).

Federal Aid Programs

Rules for federal student aid are set by Congress. Eligibility is set by a federal formula. Scholarships and awards from private sources are also factored into the eligibility formula.

The Federal Pell Grant Program provides assistance to first time degree-seeking undergraduate students who meet the eligibility criteria.

More detailed information is available at the Federal Student Aid website (https://studentaid.gov/understand-aid/types/grants/pell/).

University Scholarships and Grants

Undergraduate students are considered for university funded scholarships and grants, which do not have to be repaid, based on a detailed analysis of family financial circumstances. This may include home equity, other income, and family assets that may not have been considered in the calculation of federal aid. Institutional scholarship and grant funds are combined with federal aid to provide a total offer of financial aid based on financial need.

Academic Scholarships

Each year, the University offers a limited number of academic scholarships to entering first-year students. These highly competitive programs recognize academic achievement, leadership, commitment to service, and potential for success at the University. Some of these awards consider a combination of financial need and academic merit.

Because Carolina is a highly selective university, competition for academic scholarships is strong. Very few academic scholarships are awarded each year.

There is no separate application for UNC academic scholarships. Selection is based on the information provided in a student's admission application. Academic scholarship finalists will be notified shortly after they are admitted.

The Morehead-Cain (http://moreheadcain.org) and the Robertson Scholars (http://robertsonscholars.org) programs are administered by private foundations and *do* require separate applications. Visit their websites for details.

More information about the University's academic scholarships can be found at the Scholars Program website (https://studentaid.unc.edu/incoming/what-aid-is-available/scholarships/).

Work-Study Employment

Work-study programs offer the chance to earn funds by working a part-time job on campus or at a community service agency. Undergraduate work-study jobs require an average of 10 to 12 hours per week, with wages that depend on the job. You can apply for work-study jobs that match your interests, skills, and career plans.

Graduate students are not automatically considered for work-study funding. You can learn more about work-study opportunities for graduate students on our website (https://studentaid.unc.edu/graduate/what-aid-is-available/work-study/).

Loans

The University administers a number of student loan programs, both federal and institutional, which provide low-interest, long-term loans to undergraduate, graduate, and professional students who are eligible for aid.

After a student applies for aid, and has been admitted, the Office of Scholarships and Student Aid offers loans based on eligibility, loan limits, and program cost of attendance. More information on loan programs for undergraduate students can be found in the undergraduate loan guide (https://studentaid.unc.edu/current/what-aid-is-available/loans/). More information on loan programs for graduate and professional school students can be found in the graduate loan guide (https://studentaid.unc.edu/graduate/what-aid-is-available/loans/).

Students have the opportunity to accept, reduce or choose not to borrow offered loans, so budget carefully (http://studentaid.unc.edu/budgeting/)

before deciding. Contact the OSSA Loans Team (ssa_loans@unc.edu) with any questions.

Laptop Grants

All Carolina students are required to have a laptop computer. The University offers grants — in the form of a credit at Student Stores, which sells a variety of laptops — to cover the cost for qualifying first-year students who receive need-based financial aid.

You are welcome to combine the grant with your own money to purchase a more expensive laptop. But if you leave Carolina without completing a degree, the University keeps the computer.

Questions and Assistance

Financial aid staff are ready to help. Visit the Office of Scholarships and Student Aid or email help@studentaid.unc.edu to get in touch.

For Graduate Students

The Graduate School offers a variety of funding opportunities to assist graduate students. The Graduate School provides information and support to students applying for external fellowships, as well as providing fellowships and other direct financial support to graduate students, which supplements what the individual school or department provides. For updated information, please see The Graduate School's funding resources website (http://gradschool.unc.edu/funding/).

Graduate Tuition Incentive Scholarship *(*http://gradschool.unc.edu/funding/gradschool/gtis.html*):* Helps cover the remaining cost of in-state tuition for graduate students who are receiving external funding awards in support of their thesis or dissertation research

Graduate Student Opportunity Fund *(*http://gradschool.unc.edu/funding/gradschool/opportunityfund.html*):* Assists students with small, nonrecurring, unusual and unexpected academic expenses

Graduate Student Transportation Grant *(*http://gradschool.unc.edu/funding/gradschool/transportationgrant.html*):* Assists students with some of the transportation costs necessary for travel to a regional, national, or international academic conference or professional society meeting to present their dissertation research

The Graduate Funding Information Center (http://gradfunding.web.unc.edu/) is a resource for graduate students seeking information on funding sources for independent research, collaborative projects, fellowships, program development, and other scholarly activities.

You are welcome to contact the Fellowships Office at gradfunding@unc.edu.

To receive alerts when funding opportunities are posted, subscribe to The Graduate School funding listserv (http://gradfunding.web.unc.edu/).

Departmental Awards

Teaching and Research Assistantships

The majority of assistantships available to graduate students are awarded by academic schools and departments. Approximately 2,500 graduate, research, and teaching assistantships are available through specific departments. Graduate assistantships are also available through the University's various research institutes and centers. Stipends, responsibilities, selection criteria, and application and notification procedures vary from department to department. Applicants should discuss with the program to which they are applying the specific funding opportunities available to graduate students.

Federal/State Fellowships and Traineeships

A number of state and federally funded fellowships and traineeships are also available in some departments. Students must be pursuing graduate training in specified fields of study to be eligible for these awards. Interested students should request additional information from their academic departments.

Application Deadline

Prospective graduate students may indicate when applying for admission their interest in an assistantship and should discuss application deadlines with their prospective departments.

If you have questions about departmental awards, please contact the department to which you are applying (https://gradschool.unc.edu/academics/degreeprograms/).

Financial Aid Regulations

To be eligible for financial aid programs administered by the Office of Scholarships and Student Aid (http://studentaid.unc.edu/), you must be enrolled in a degree program on at least a half-time basis, a United States citizen or permanent resident, and making satisfactory progress toward completion of the academic program. You may not be in default on a loan previously received for college expenses nor owe the Department of Education for a refund on a scholarship, grant, or loan from a previous enrollment period.

Graduate or professional school students who wish to apply for financial aid to meet the costs of attending the University must complete the Free Application for Federal Student Aid (FAFSA) (https://studentaid.gov/h/apply-for-aid/fafsa/) using the UNC–Chapel Hill school code (002974).

You should not wait for admission to a graduate or professional school program before applying for aid. If additional documentation is needed to complete your application for financial aid, the Office of Scholarships and Student Aid will notify you.

ARCHIVES

Undergraduate

2024–2025 Undergraduate Catalog: PDF (https://catalog.unc.edu/pdf/2024-25-ugrad.pdf) | HTML (https://catalog.unc.edu/archives/2024-2025/undergraduate/)
2023–2024 Undergraduate Catalog: PDF (https://catalog.unc.edu/pdf/2023-24-ugrad.pdf) | HTML (https://catalog.unc.edu/archives/2023-2024/undergraduate/)
2022–2023 Undergraduate Catalog: PDF (https://catalog.unc.edu/archives/2022-23-ugrad.pdf) | HTML (https://catalog.unc.edu/archives/2022-2023/undergraduate/)
2021–2022 Undergraduate Catalog: PDF (https://catalog.unc.edu/archives/2021-22-ugrad.pdf) | HTML (https://catalog.unc.edu/archives/2021-2022/undergraduate/)
2020–2021 Undergraduate Catalog: PDF (https://catalog.unc.edu/archives/2020-21-ugrad.pdf) | HTML (https://catalog.unc.edu/archives/2020-2021/undergraduate/)
2019–2020 Undergraduate Catalog: PDF (https://catalog.unc.edu/archives/2019-20-ugrad.pdf) | HTML (https://catalog.unc.edu/archives/2019-2020/undergraduate/)
2018–2019 Undergraduate Catalog: PDF (https://catalog.unc.edu/archives/2018-19-ugrad.pdf) | HTML (https://catalog.unc.edu/archives/2018-2019/undergraduate/)
2017–2018 Undergraduate Catalog: PDF (https://catalog.unc.edu/archives/2017-18-ugrad.pdf) | HTML (https://catalog.unc.edu/archives/2017-2018/undergraduate/)
2016–2017 Undergraduate Catalog: PDF (https://catalog.unc.edu/archives/2016-17-ugrad.pdf) | HTML (https://catalog.unc.edu/archives/2016-2017/undergraduate/)
2015–2016 Undergraduate Bulletin: PDF (https://catalog.unc.edu/archives/2015-16-ugrad.pdf)
2014–2015 Undergraduate Bulletin: PDF (https://catalog.unc.edu/archives/2014-15-ugrad.pdf)
2013–2014 Undergraduate Bulletin: PDF (https://catalog.unc.edu/archives/2013-14-ugrad.pdf)
2012–2013 Undergraduate Bulletin: PDF (https://catalog.unc.edu/archives/2012-13-ugrad.pdf)
2011–2012 Undergraduate Bulletin: PDF (https://catalog.unc.edu/archives/2011-12-ugrad.pdf)
2010–2011 Undergraduate Bulletin: PDF (https://catalog.unc.edu/archives/2010-11-ugrad.pdf)
2009–2010 Undergraduate Bulletin: PDF (https://catalog.unc.edu/archives/2009-10-ugrad.pdf)
2008–2009 Undergraduate Bulletin: PDF (https://catalog.unc.edu/archives/2008-09-ugrad.pdf)
2007–2008 Undergraduate Bulletin: PDF (https://catalog.unc.edu/archives/2007-08-ugrad.pdf)
2006–2007 Undergraduate Bulletin: PDF (https://catalog.unc.edu/archives/2006-07-ugrad.pdf)
2005–2006 Undergraduate Bulletin: PDF (https://catalog.unc.edu/archives/2005-06-ugrad.pdf)
2004–2005 Undergraduate Bulletin: PDF (https://catalog.unc.edu/archives/2004-05-ugrad.pdf)
2003–2004 Undergraduate Bulletin: PDF (https://catalog.unc.edu/archives/2003-04-ugrad.pdf)
2002–2003 Undergraduate Bulletin: PDF (https://catalog.unc.edu/archives/2002-03-ugrad.pdf)
2001–2002 Undergraduate Bulletin: PDF (https://catalog.unc.edu/archives/2001-02-ugrad.pdf)
2000–2001 Undergraduate Bulletin: PDF (https://catalog.unc.edu/archives/2000-01-ugrad.pdf)
1999–2000 Undergraduate Bulletin: PDF (https://catalog.unc.edu/archives/1999-00-ugrad.pdf)
1998–1999 Undergraduate Bulletin: PDF (https://catalog.unc.edu/archives/1998-99-ugrad.pdf)
1997–1998 Undergraduate Bulletin: PDF (https://catalog.unc.edu/archives/1997-98-ugrad.pdf)

Graduate

2024–2025 Graduate Catalog: PDF (https://catalog.unc.edu/pdf/2024-25-grad.pdf) | HTML (https://catalog.unc.edu/archives/2024-2025/graduate/)
2023–2024 Graduate Catalog: PDF (https://catalog.unc.edu/pdf/2023-24-grad.pdf) | HTML (https://catalog.unc.edu/archives/2023-2024/graduate/)
2022–2023 Graduate Catalog: PDF (https://catalog.unc.edu/archives/2022-23-grad.pdf) | HTML (https://catalog.unc.edu/archives/2022-2023/graduate/)
2021–2022 Graduate Catalog: PDF (https://catalog.unc.edu/archives/2021-22-grad.pdf) | HTML (https://catalog.unc.edu/archives/2021-2022/graduate/)
2020–2021 Graduate Catalog: PDF (https://catalog.unc.edu/archives/2020-21-grad.pdf) | HTML (https://catalog.unc.edu/archives/2020-2021/graduate/)
2019–2020 Graduate Catalog: PDF (https://catalog.unc.edu/archives/2019-20-grad.pdf) | HTML (https://catalog.unc.edu/archives/2019-2020/graduate/)
2018–2019 Graduate Catalog: PDF (https://catalog.unc.edu/archives/2018-19-grad.pdf) | HTML (https://catalog.unc.edu/archives/2018-2019/graduate/)
2017–2018 Graduate Catalog: PDF (https://catalog.unc.edu/archives/2017-18-grad.pdf) | HTML (https://catalog.unc.edu/archives/2017-2018/graduate/)
2016–2017 Graduate Catalog: PDF (https://catalog.unc.edu/archives/2016-17-grad.pdf) | HTML (https://catalog.unc.edu/archives/2016-2017/graduate/)
2015–2016 Graduate Record: PDF (https://catalog.unc.edu/archives/2015-16-grad.pdf)
2014–2015 Graduate Record: PDF (https://catalog.unc.edu/archives/2014-15-grad.pdf)
2013–2014 Graduate Record: PDF (https://catalog.unc.edu/archives/2013-14-grad.pdf)
2012–2013 Graduate Record: PDF (https://catalog.unc.edu/archives/2012-13-grad.pdf)
2011–2012 Graduate Record: PDF (https://catalog.unc.edu/archives/2011-12-grad.pdf)
2010–2011 Graduate Record: PDF (https://catalog.unc.edu/archives/2010-11-grad.pdf)
2008–2010 Graduate Record: PDF (https://catalog.unc.edu/archives/2008-10-grad.pdf)
2006–2008 Graduate Record: PDF (https://catalog.unc.edu/archives/2006-08-grad.pdf)
2004–2006 Graduate Record: PDF (https://catalog.unc.edu/archives/2004-06-grad.pdf)
2002–2004 Graduate Record: PDF (https://catalog.unc.edu/archives/2002-04-grad.pdf)
2001–2002 Graduate Record: PDF (https://catalog.unc.edu/archives/2001-02-grad.pdf)
2000–2001 Graduate Record: PDF (https://catalog.unc.edu/archives/2000-01-grad.pdf)

1999–2000 Graduate Record: PDF (https://catalog.unc.edu/archives/1999-00-grad.pdf)
1998–1999 Graduate Record: PDF (https://catalog.unc.edu/archives/1998-99-grad.pdf)
1997–1998 Graduate Record: PDF (https://catalog.unc.edu/archives/1997-98-grad.pdf)

For catalogs for years prior to 1997-98, contact the Office of the University Registrar *(*unccatalog@unc.edu*); for archived catalogs for programs not included in the Academic Catalog, contact the school or program directly.*

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