

2026-2027

CAROLINA

◆◆◆ GRADUATE CATALOG ◆◆◆



The University
of North Carolina
at Chapel Hill

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ACADEMIC CALENDAR

2026-2027

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>).

*Professional School Students – please check with the Dean of your school as the dates of Wellbeing Days may vary.

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

MM and SSI classes begin	Wednesday, May 13
MM last day for late registration	Wednesday, May 13
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
SSI reading day	Wednesday, June 17
Holiday (Juneteenth). No classes	Friday, June 19
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

Fall Semester 2026

New student convocation	Sunday, August 16
Classes begin	Monday, August 17
Last day for late registration	Friday, August 21
Holiday (Labor Day). No classes	Monday, September 7
Well-being days. No classes	Monday, September 21 Tuesday, October 6
University Day. Classes cancelled during ceremony	Monday, October 12th
Fall break. No classes	Thursday, October 15 Friday, October 16
Thanksgiving recess. No classes	Wednesday, November 25 Thursday, November 26 Friday, November 27
Classes end	Wednesday, December 2
Reading days	Thursday, December 3 Wednesday, December 9

Exam days

Friday, December 4
Saturday, December 5
Monday, December 7
Tuesday, December 8
Thursday, December 10
Friday, December 11

Fall Commencement

Sunday, December 13

Spring Semester 2027

Classes begin	Wednesday, January 6
Last day of late registration	Tuesday, January 12
Holiday (MLK Jr.). No classes	Monday, January 18
Well-being days	Monday, February 8 Thursday, March 25
Spring break begins 5:00 p.m.	Friday, March 5
Classes resume 8:00 a.m.	Monday, March 15
Spring holiday. No classes	Friday, March 26
Classes end	Monday, April 26
Reading days	Tuesday, April 27 Friday, April 30 Wednesday, May 5
Exam days	Wednesday, April 28 Thursday, April 29 Saturday, May 1 Monday, May 3 Tuesday, May 4 Thursday, May 6

Spring Commencement

Saturday, May 8

Summer Session I (SSI) and Maymester (MM) 2027

SSI and MM classes begin	Wednesday, May 12
MM last day for late registration	Wednesday, May 12
SSI last day for late registration	Thursday, May 13
Holiday (Memorial Day). No classes	Monday, May 31
MM classes end/exams	Thursday, May 27 Friday, May 28
SSI classes end	Tuesday, June 15
SSI reading day	Wednesday, June 16
SSI exam days	Thursday, June 17 Friday, June 18
Holiday (Juneteenth). No classes	Monday, June 21

Summer Session II (SSII) 2027

SSII classes begin	Tuesday, June 22
SSII last day for late registration	Wednesday, June 23
Holiday (Independence Day). No classes	Monday, July 5
SSII classes end	Friday, July 23
SSII reading day	Monday, July 26
SSII exam days	Tuesday, July 27 Wednesday, 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
Elizabeth Hall
cehall@email.unc.edu
(919) 445-1297

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Meredith Hudson
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(919) 962-6024

Sarah Hill McIntyre
scolwell@unc.edu
(919) 966-3576

Compliance

Kathryn Winn, Senior Compliance Manager/Interim Grievance Coordinator
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 Section 504 Coordinator for EOC
Simon Bloor
simon.bloor@unc.edu
(919) 962-8300

Accommodations Support Coordinators
Annie Daw

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

Michael Denny
mgdenny@email.unc.edu

Kaitlyn Draughn
draughnk@email.unc.edu
(919) 962-8300

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mercevan@unc.edu
919-966-3576

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mfoxx@unc.edu
(919) 445-4663

Scarlett Jordan
scarlett@unc.edu
(919) 962-8300

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

Accommodations Specialist
Jasmine McCrae
jmccrae@unc.edu
919-843-0280

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 2024–2025, the six-year completion or graduation rate for undergraduates who entered the University of North Carolina at Chapel Hill in 2019 on a full-time basis was 91.1 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, 2026, and will not be updated again until June, 2027.

Office of the Chancellor

- Lee H. Roberts, *Chancellor*
 - Christi Hurt, *Chief of Staff*
- Michael Andreasen, *Vice Chancellor for University Development*
- Michael Barker, *Vice Chancellor for Information Technology and CIO*
- Anita Brown-Graham, *Director of NC Impact*
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 - Leah Cox, *Vice Provost and Interim Leader for Enrollment Management*
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 - James Orr, *Senior Vice Provost for Student Success*
 - James White, *Dean of The College of Arts and Sciences*

University Governance

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- Beth Moracco, *Chair of Faculty*

- Rebecca Howell, *Chair of Employee Forum*

Office of Undergraduate Education

- Ian F. McNeely, *Senior Associate Dean, Undergraduate Education*
- Meredith Petschauer, *Associate Dean, Undergraduate Curricula*
- Chloe Russell, *Associate Dean, Academic Advising Program*
- Kim Abels, *Associate Dean, Center for Student Success*
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- Jennifer Larson, *Director of Credit Programs and UNC Summer School*
- Nick Siedentop, *Curriculum Director, Office of Undergraduate Curricula*

School Deans

- James White, *Dean, College of Arts and Sciences*
- Jed Atkins, *Dean and Director, School of Civic Life and Leadership*
- Stanley C. Ahalt, *Dean, School of Data Science and Society*
- Mary Margaret Frank, *Dean, Kenan–Flagler Business School*
- Janet Guthmiller, *Dean, School of Dentistry*
- Jill V. Hamm, *Dean, School of Education*
- Aimee N. Wall, *Dean, School of Government*
- Elizabeth Mayer-Davis, *Dean, The Graduate School*
- Diane Kelly, *Interim Dean, School of Information and Library Science*
- Raul Reis, *Dean, School of Journalism and Media*
- Andy Hessick, *Interim Dean, School of Law*
- Cristy Page, *Dean, School of Medicine; Vice Chancellor, Medical Affairs; CEO, UNC Health Care System*
- Valerie Howard, *Dean, School of Nursing*
- Kim L.R. Brouwer, *Interim Dean, Eshelman School of Pharmacy*
- Nancy Messonnier, *Dean, Gillings School of Global Public Health*
- Ramona Denby-Brinson, *Dean, School of Social Work*
- Jennifer Larson, *Director, Credit Programs and Summer School*
- Todd Nicolet, *Vice Provost for Digital and Lifelong Learning*
- ## Finance and Operations
- Nathan Knuffman, *Vice Chancellor, Finance and Operations, Chief Financial Officer*
- Lindsay Farling, *Associate Vice Chancellor, Budget and Data Analysis*
- Howard Wertheimer, *Interim Associate Vice Chancellor, Facilities Services*

Gordon Merklein, *Associate Vice Chancellor, Real Estate and Campus Enterprises*

Carly Perin, *Associate Vice Chancellor, Finance*

Scott W. Savage, *Associate Vice Chancellor, Organizational Strategy and Performance*

Human Resources

Linc Butler, *Senior Associate Vice Chancellor, Human Resources and Academic Personnel*

Information Technology Services

J. Michael Barker, *Vice Chancellor, Information Technology and Chief Information Officer*

Mechelle Clayton, (<https://its.unc.edu/about-us/what-we-do/enterprise-applications/>) *Assistant Vice Chancellor, Enterprise Applications*

Suzanne Cadwell, *Interim Assistant Vice Chancellor, Customer Experience and Engagement*

Ethan Kromhout, *Assistant Vice Chancellor, Infrastructure and Operations*

John McGee, *Assistant Vice Chancellor, Research Computing*

Medical Affairs

Cristy Page, *Dean, School of Medicine; Vice Chancellor, Medical Affairs; CEO, UNC Health Care System*

Samantha Meltzer-Brody, *Executive Dean, UNC School of Medicine*

Margaret Ann Bollmeier, *Chief Philanthropy Officer, UNC School of Medicine and UNC Health President, UNC Health Foundation*

Will Bryant, *Chief Financial Officer, UNC Health*

Audrea Caesar, *Chief Community Health Officer, UNC School of Medicine and UNC Health*

Blossom Damania, *Chief Scientific Officer, UNC Health; Vice Dean for Research, UNC School of Medicine*

Scott Doak, *Chief Human Resources Officer, UNC Health*

Katie Eimers, *Chief Culture Officer, UNC Health*

Cam Enarson, *Vice Dean for Strategic Initiatives, UNC School of Medicine*

Matthew Ewend, *Chief Clinical Officer, UNC Health; President, UNC Physicians*

Jeff Lindsay, *Chief Operating Officer and President, UNC System Hospitals, UNC Health*

Ted Lotchin, *Chief Compliance Officer, UNC Health*

Karlina Matthews, *Chief Financial Officer and Vice Dean for Finance and Business Operations, UNC School of Medicine; Chief Business Officer, UNC Health*

Tammy Scarborough, *Chief Administrative Officer and President Statewide, UNC Health*

Tom Shanahan, *Chief Legal Officer, UNC Health*

Jennifer Wu, *Vice Dean, Academic Affairs, School of Medicine; Deputy Chief Academic Officer, UNC Health*

Alyssa Zameiowski, *Chief of Staff to the Dean and CEO, UNC School of Medicine and UNC Health*

Research

Penny Gordon-Larsen, *Vice Chancellor, Research*

Andrew S. Johns, *Senior Associate Vice Chancellor, Research*

Craig Fletcher, *Associate Vice Chancellor, Research*

Student Affairs

Jonathan Sauls, *Senior Associate Vice Chancellor, Student Success and Administration*

Aaron Bachenheimer, *Associate Vice Chancellor, Student Engagement*

James Barricelli, *Assistant Vice Chancellor, Career Development and Executive Director, University Career Services*

University Development

Michael Andreasen, *Vice Chancellor, University Development*

Jen Bowman, *Associate Vice Chancellor, Donor Relations, Marketing, and Volunteer Engagement*

Jeff Hill, *Associate Vice Chancellor, Campaigns and Strategy*

Lusha Kaufmann, *Associate Vice Chancellor, Strategic Initiatives*

Sean Mulligan, *Associate Vice Chancellor, Development for Individual Giving*

Leslie H. Nelson-Bernier, *Senior Associate Vice Chancellor, Development*

Timothy D. Smith, *Associate Vice Chancellor, Development*

Communications and Marketing

Dean Stoyer, *Vice Chancellor, Communications and Marketing*

Beth Keith, *Senior Associate Vice Chancellor*

Adrienne King, *Associate Vice Chancellor, Marketing*

Tanya Moore, *Associate Vice Chancellor*

University Counsel

Paul Newton, *Vice Chancellor and General Counsel*

Sarah Ball, *Associate University Counsel*

Lee Bollinger, *Associate University Counsel*

Marla Spector Bowman, *Litigation Counsel*

Nichole R. Davis, *Assistant University Counsel*

Maggie Craven Gappens, *Associate University Counsel*

Thomas Henry, *Associate University Counsel*

Kristen Simonsen Lewis, *Assistant University Counsel*

Martin Maloney, *Assistant University Counsel*

Katie Nolan, *Associate University Counsel*

Paige O'Hale, *Associate Vice Chancellor and Senior Litigation Counsel*

Zach Padget, *Litigation Counsel*

Kara E. Simmons, *Senior Associate Vice Chancellor and Deputy General Counsel*

Kirsten Stevenson, *Senior University Counsel*

Laura H. Thornton, *Executive Director of Legal Operations and Strategy*

Sara Throckmorton, *Assistant University Counsel*

Special Counsel

Benjamin A. Davidson, *Director of Tax Policy and Analysis, Senior University Counsel, and Adjunct Professor of Law*

Athletics

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

BOARD OF TRUSTEES

Malcolm K. Turner

Chair

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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

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.

A complete Board Membership list is found on this website (<https://gradschool.unc.edu/about/adminboard/>).

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 website (<https://gradschool.unc.edu/people/>).

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.

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/structured-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 2026. Refer to the Undergraduate Admissions website (<https://admissions.unc.edu/>) for 2027 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 (<https://studentaid.gov/h/apply-for-aid/fafsa/>) (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 (<https://gradschool.unc.edu/academics/resources/>), 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://iss.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. 60)

American Studies –

American Studies – M.A. (p. 62), Ph.D. (p. 62)

Folklore – M.A. (p. 62)

Anthropology – M.A. (p. 65), Ph.D. (p. 65)

Applied Physical Sciences –

Materials Science – M.S., Ph.D. (p. 68)

Applied Professional Studies – M.A.P.S. (p. 70)

Art and Art History –

Art History – M.A., Ph.D. (p. 73).

Studio Art – M.F.A. (p. 73)

Asian and Middle Eastern Studies – M.A. (p. 76)

Biochemistry and Biophysics – M.S. (p. 78), Ph.D. (p.)

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

Biology – M.A., M.S. (p. 85), Ph.D. (p. 85)

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

Business Administration – M.S. (Business Research) (p. 95), Ph.D. (p. 95)

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

Chemistry – M.A., M.S., Ph.D. (p. 105)

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

Classics – M.A., Ph.D. (p. 113)

Clinical Rehabilitation and Mental Health Counseling –

Clinical Mental Health Counseling – M.S. (p. 114)

Clinical Rehabilitation Counseling – M.S. (p. 117)

Communication –

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

Computer Science – M.S., Ph.D. (p.)

Data and Information Science–

Applied Data Science - M.A.D.S. (p. 127)

Data Science - M.S. (p. 127), Ph.D. (p. 132)

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

Information Science – M.S.I.S. (p.)

Library Science – M.S.L.S. (p.)

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

Health Informatics – Ph.D. (p. 132)

Biomedical and Health Informatics – M.P.S. (Residential) (p. 127), M.P.S. (Distance) (p. 127)

Dentistry –

Dental Hygiene Education – M.S. (p. 137)

Endodontics – M.S. (p. 137)

Operative Dentistry and Biomaterials – M.S. (p. 137)

Oral and Craniofacial Biomedicine – M.S., Ph.D. (p. 137)

Oral and Maxillofacial Pathology – M.S. (p. 137)

Oral and Maxillofacial Radiology – M.S. (p. 137)

Orthodontics – M.S. (p. 137)

Pediatric Dentistry – M.S. (p. 137)

Periodontology – M.S. (p. 137)

Prosthodontics – M.S. (p. 137)

Dramatic Art – M.F.A. (p. 145)

Earth, Marine, and Environmental Sciences – M.S., Ph.D. (p. 147)

Economics – M.S., Ph.D. (p. 150)

Education –

Curriculum and Instruction – Ed.D. (p. 152)

Educational Innovation, Technology, and Entrepreneurship – M.A. (p. 152)

Educational Leadership – Ed.D. (p. 152). (residential and distance)

Master's/Doctorate in Education – M.A., Ph.D. (p. 152)

Master of Arts in Teaching – M.A.T. (p. 152)

School Counseling – M.Ed. (p. 152)

School Psychology – M.A., M.Ed., Ph.D. (p. 152)

English and Comparative Literature – M.A., Ph.D. (p. 159)

Environment, Ecology and Energy – M.A., M.S., Ph.D. (p. 163)

Exercise and Sport Science – M.A. (p. 178)

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

Geography and Environment – M.A., Ph.D. (p. 184)

Germanic and Slavic Languages and Literature -

German Studies – M.A. (p. 187), Ph.D. (p. 187) (joint with Duke University)

Global Studies – M.A. (p. 192)

Government – M.P.A. (p. 194) (residential and distance)

History – M.A., Ph.D. (p. 213)

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

Journalism and Media –

Media and Communication – M.A., Ph.D. (p. 230)

Digital Communication (distance) – M.A. (p. 230)

Linguistics – M.A. (p. 219)

Mathematics – M.A., M.S., Ph.D. (p. 228)

Microbiology and Immunology – M.S., Ph.D. (p. 238)

Musicology – M.A., Ph.D. (p. 243)

Neuroscience – M.S., Ph.D. (p. 245)

Nursing – D.N.P., M.S.N., Ph.D. (p. 250)

Occupational Science – M.S., Ph.D. (p. 259)

Occupational Therapy – M.S. (p. 259)

Pathology – M.S. (p. 262), Ph.D. (p. 262)

Pharmacy –

Pharmaceutical Sciences – M.S., Ph.D. (p. 272)

Regulatory Science – M.P.S. (p. 272)

Pharmacology – M.S., Ph.D. (p.)

Philosophy – M.A., Ph.D. (p. 276)

Physics and Astronomy – M.S., Ph.D. (p. 281)

Political Science – M.A., Ph.D. (p. 283)

Distance – M.A. (p. 283) (Trans-Atlantic Masters)

Psychology and Neuroscience –

Psychology – M.A. (p. 286), Ph.D. (p. 286)

Public Health – Master of Public Health (M.P.H. (p. 288)), MPH@UNC (distance)

Biostatistics – Dr.P.H., M.S., M.S.P.H., Ph.D. (p. 288)

Environmental Sciences and Engineering – M.S., M.S.E.E., M.S.P.H., Ph.D. (p. 165)

Epidemiology – M.S.C.R., M.S.P.H., Ph.D. (p. 288)

Health Behavior – Dr.P.H., M.S.P.H., Ph.D. (p. 288)

Health Policy and Management –

Residential – M.H.A., M.S.P.H., Ph.D. (p. 288)

Distance – Dr.P.H. (p. 288) in Public Health Executive Leadership (together with PHLP), M.H.A. (p. 288), M.S.D.M. (p. 288) (not active)

Maternal and Child Health –

Residential – Ph.D. (p. 288)

Nutrition – Dr.P.H., M.S., Ph.D. (p. 288)

Public Health Leadership and Practice – Dr.P.H. (p. 291) (together with HPM)

Public Policy – M.A., M.P.P., Ph.D. (p. 294)

Religious Studies – M.A., Ph.D. (p. 297)

Romance Studies -

Romance Languages and Literatures – M.A., Ph.D. (p. 299)

Social Work –

Residential – M.S.W. (p.), Ph.D. (p.)

Distance and Site-based – M.S.W. (p.)

Sociology – M.A., Ph.D. (p. 308)

Speech and Hearing Sciences – M.S., Ph.D. (p. 310)

Statistics and Operations Research –

Statistics, Analytics, and Data Science – M.S. (p. 314)

Statistics and Operations Research – Ph.D. (p. 314)

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

Degree Programs By Name

Africana Studies (p. 60)

American Studies (p. 62)

Anthropology (p. 65)

Applied Data Science (p.)

Applied Professional Studies (p. 70)

Art (p. 72) and Art History (p. 72)

Asian and Middle Eastern Studies (p. 76)

Biochemistry and Biophysics (BBSP) (p. 78)

Bioinformatics and Computational Biology (BBSP) (p. 81)

Biology (p. 85)

Biomedical and Health Informatics (p. 127)

Biomedical Engineering (p. 88)

Biostatistics (p. 91)

- Business Administration (p. 95)
- Cell Biology and Physiology (BBSP) (p. 100)
- Chemistry (p. 104)
- City and Regional Planning (p. 107)
- Classics (p. 113)
- Clinical Mental Health Counseling (p. 114)
- Clinical Rehabilitation Counseling (<https://catalog.unc.edu/graduate/schools-departments/division-clinical-rehabilitation-mental-health-counseling/>)
- Communication Studies (p. 120)
- Computer Science (p. 121)
- Curriculum and Instruction (p. 152)
- Data Science (p. 127)
- Dental Hygiene Education (p. 137)
- Digital Communication (p. 120)
- Digital Curation and Management (p. 127)
- Dramatic Art (p. 145)
- Earth, Marine, and Environmental Sciences (p. 147)
- Economics (p. 150)
- Education (p. 152)
- 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. 137)
- English and Comparative Literature (p. 159)
- Environment, Ecology and Energy (p. 163)
- Environmental Sciences and Engineering (p. 165)
- Epidemiology (p. 171)
- Exercise and Sport Science (p. 178)
- Folklore (AMST) (p. 62)
- Genetics and Molecular Biology (BBSP) (p. 181)
- Geography (p. 184) and Environment (p. 184)
- German Studies (p. 187)
- Global Studies (p. 192)
- Health Behavior (p. 197)
- Health Informatics (p.)
- Health Policy and Management (p. 203)
- History (p. 213)
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- Information and Library Science (p. 127)
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- Master of Arts in Teaching (p. 152)
- Materials Science (p. 68)
- Maternal and Child Health (p. 223)
- Mathematics (p. 228)
- Microbiology and Immunology (BBSP) (p. 238)
- Musicology (p. 243)
- Neuroscience (BBSP) (<https://catalog.unc.edu/graduate/schools-departments/neurobiology-curriculum/#text>)
- Nursing (p. 250)
- Nutrition (p. 253)
- Occupational Science (p. 259)
- Occupational Therapy (p. 259)
- Operative Dentistry and Biomaterials (p. 137)
- Oral and Craniofacial Biomedicine (p. 137)
- Oral and Maxillofacial Pathology (p. 137)
- Oral and Maxillofacial Radiology (p. 137)
- Orthodontics (p. 137)
- Pathology (BBSP) (p. 262)
- Pediatric Dentistry (p. 137)
- Periodontology (p. 137)
- Pharmaceutical Sciences (p. 270)
- Pharmacology (BBSP) (p. 267)
- Philosophy (p. 276)
- Physics and Astronomy (p. 280)
- Political Science (p. 283)
- Prosthodontics (p. 137)
- Psychology (p. 286)
- Public Administration (p. 194)
- Public Health (p. 288)
- Public Health Leadership and Practice (p. 290)

Public Policy (p. 293)

Regulatory Science (p. 270)

Religious Studies (p. 297)

Romance Languages and Literatures (p. 299)

School Counseling (p. 152)

School Psychology (p. 152)

Social Work (p. 301)

Sociology (p. 308)

Speech and Hearing Sciences (p. 310)

Statistics and Operations Research (p. 314)

Studio Art (p. 72)

Toxicology (BBSP) (p. 317)

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

Trans-Atlantic Masters (p. 283)

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. Program details may differ; please consult your program handbook for more information.
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. Program details may differ; please consult your program handbook for more information.
Master's IRB Compliance	Student completes IRB training and verifies compliance with program requirements. Program details may differ; please consult your program handbook for more information.
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). Program details may differ; please consult your program handbook for more information.

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. Program details may differ; please consult your program handbook for more information.

Doctoral Degree

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.

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. 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 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 Research Presentation	Student presents their research as required by the program. 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. Program details may differ; please consult your program handbook for more information.	Doctoral Advisor Finalization	Student has confirmed advisor with program and advisor. Program details may differ; please consult your program handbook for more information.
Doctoral Manuscript Submission	Student is required to submit an article for publication. Program details may differ; please consult your program handbook for more information.	Doctoral Program Finalization	Student has confirmed doctoral program with BBSP advisor and program. Program details may differ; please consult your program handbook for more information.
Doctoral Research Experience	Student participates in field-related, sustained research activities for the number of hours as defined by program requirements. Program details may differ; please consult your program handbook for more information.	Doctoral Ethics Requirement	Student has completed the doctoral ethics requirement. Program details may differ; please consult your program handbook for more information.
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). Program details may differ; please consult your program handbook for more information.	Doctoral Career Development Experience	Student has completed the career development experience requirement. Program details may differ; please consult your program handbook for more information.
Doctoral IRB Compliance	Student completes IRB training and verifies compliance with program requirements. Program details may differ; please consult your program handbook for more information.	This tab will house program requirement changes made after the publication of the catalog.	
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.		

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 graduate, and professional levels. The University does not award any credential below a bachelor's degree credential.

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://gradschool.unc.edu/admissions/feewaiver/>) 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. 32)
- Applied Data Science Certificate (p. 32)

B

- Bioinformatics and Computational Biology Certificate (p. 33)
- Biomedical Imaging Science Certificate (p. 33)
- Business of Healthcare Certificate (p. 33)

C

- Cardiovascular Science Certificate (p. 34)
- Chromatin and Epigenetics Certificate (p. 34)
- Community Preparedness and Disaster Management Certificate (p. 35)
- Computational Linguistics Certificate (p. 35)
- Cultural Studies Certificate (p. 36)

D

- Developmental Disabilities Certificate (p. 36)
- Developmental Psychology Certificate (p. 37)
- Digital Communication Strategy Certificate (p. 37)
- Digital Humanities Certificate (p. 38)
- Digital Media Management Certificate (p. 40)
- Digital Storytelling Certificate (p. 40)

F

- Field Epidemiology Certificate (p. 41)
- Film Studies Certificate (p. 41)

G

- Geographic Information Science Certificate (p. 41)
- Global Health Certificate (p. 42)

H

- Health Systems Pharmacy Administration and Leadership Certificate (p. 43)
- Healthcare Management Certificate (p. 42)

I

- Improvement Science and Implementation Interprofessional Certificate (p. 43)
- Innovation for the Public Good Certificate (p. 44)
- Innovation, Leadership, and Management Certificate (p. 43)

- Intellectual and Developmental Disabilities (I/DD) and Neurodiversity (ND) Specialty Certificate (p. 45)

J

- Jewish Studies Certificate (p. 46)

L

- Latin American Studies Certificate (p. 46)
- Leadership Academy Certificate (p. 47)
- Literature, Medicine, and Culture Certificate (p. 47)

M

- Middle East Studies Certificate (p. 48)
- Molecular and Cellular Biophysics Certificate (p. 48)

N

- Nanobiotechnology Certificate (p. 49)
- Natural Hazards Resilience Certificate (p. 50)
- Nonprofit Leadership Certificate (p. 50)

O

- Orofacial Pain Certificate (p. 51)

P

- Pre-Health Post-Baccalaureate Certificate (p. 52)
- Public Health Informatics Certificate (p. 52)
- Public Health Leadership Certificate (p. 52)

Q

- Qualitative Studies Certificate (p. 53)

R

- Religious Studies Certificate (p. 53)
- Rural Pharmacy Health Certificate (p. 55)
- Russian, Eurasian, and East European Studies Certificate (p. 56)

S

- Strategic Innovation and Entrepreneurship Certificate (p. 56)
- Survey Science Certificate (p. 56)

T

- Total Worker Health Certificate (p. 57)

W

- Women’s and Gender Studies Certificate (p. 57)
- Women’s Health Research Certificate (p. 58)

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

Non-Course Certificate Requirements Applied Data Science Certificate

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 (<https://go.unc.edu/CADS/>) 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

Non-Course Certificate Requirements

Bioinformatics and Computational Biology Certificate

A certificate of specialization in BCB is also available for Ph.D. students seeking some formal training in bioinformatics and computational biology, but who wish to pursue their degree in a related discipline.

Course Requirements

Code	Title	Hours
Core Courses		7
BCB 710	Bioinformatics Colloquium ¹	
BCB 720	Introduction to Statistical Modeling	
3 BCB Core Modules or Approved Electives		3
3 BCB Core Modules:		
BCB 670	Structural Bioinformatics	
BCB 715	Mathematical and Computational Approaches to Modeling Signaling and Regulatory Pathways	
BCB 717	Structural Bioinformatics	
BCB 722	Population Genetics	
BCB 724	Data Communication	
Approved BCB Electives:		
With DGS Permission students may substitute 1 one-credit hour elective for 1 one-credit hour core module. These courses may include, but are not limited to the electives listed below. These courses would all be accepted with permission for substitution.		
Minimum Hours		10

Code	Title	Hours
BCB Electives		
BCB 645	Quantitative Genetics of Complex Traits	1
BCB 718	Computational Modeling Laboratory	1
BCB 723	Topics in Statistical Genetics and Genomics	1
BCB 726	Machine Learning for Computational Biology	1
BCB 730	Fundamentals of Quantitative Image Analysis for Light Microscopy	1
BCB 750	MOLECULAR DYNAMICS	1

¹ This 1-credit course must be taken 4 times; 2x in Fall semesters and 2x in Spring semesters.

Non-Course Certificate Requirements

- Students are required to present research at BCB Colloquium in their final year at UNC.

Biomedical Imaging Science Certificate

Biomedical Imaging is a critical area of research with far reaching scientific and translational opportunities in several areas including: developmental sciences, oncology, genetics, pharmacology, neuroscience, and biomedical informatics. The broader field of biomedical imaging includes multiple sub-disciplines designed to enhance knowledge of how human systems are structured and function.

The Certificate will leverage the exceptional resources offered by the UNC Biomedical Research Imaging Center, both in terms of faculty expertise as well as imaging equipment infrastructure, to provide students with a unique opportunity to learn broadly about the biomedical imaging sciences, as well as to select a specific imaging modality for which to receive training in image acquisition, analysis, and statistics as well as artificial intelligence in medical imaging.

A distinctive features of the Certificate program is the hands-on approach. Students will gain an understanding of how different imaging modalities function, including both pre- and clinical imaging systems.

Course Requirements

Code	Title	Hours
Core Courses		
BMME 796	Seminar in Biomedical Imaging Science	3
Electives		
Students are required to take a total of 6 credit hours of electives.		6
Minimum Hours		9
Electives		
BIOS 772	Statistical Analysis of MRI Images	3
BMME 561	Introduction to Medical Imaging	3
COMP 560	Artificial Intelligence	3
PSYC 795	Functional Magnetic Resonance Imaging	3
BMME 565	Biomedical Instrumentation I	4

Non-Course Certificate Requirements

- Attendance at Biomedical Research Imaging Center symposia and workshops.
- Practicum placement for research training in an on-campus laboratory utilizing biomedical imaging techniques.

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 501	Fundamentals of Regulatory Affairs	2
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
HBEH 748	Design Thinking for the Public Good	3
PUBH 712	Global Health Ethics	3

Non-Course Certificate Requirements Cardiovascular Science Certificate

The Certificate Program in Cardiovascular Science was established in 2013 to provide UNC Chapel Hill graduate students with more in-depth academic experience in the field of cardiovascular research. Certificate programs at UNC are offered by academic schools, departments, or curricula and consist of courses and other related experiences in specialized fields. Upon completion of program requirements, certificates are awarded in recognition of competence in a given skill, practice, or field of study. Certificates carry academic credit and are awarded in addition to graduate degrees granted by specific Departments or Curricula.

Participants in the Graduate Certificate Program in Cardiovascular Science will interact with a large number of investigators within UNC's McAllister Heart Institute (MHI) and will receive training in a variety of settings (classroom, research lab, seminars, symposia). The educational objectives of the program are as follows;

1. To provide students with a broad understanding of cardiovascular development, physiology, pharmacology, and disease.
2. To keep students abreast of recent advancements in cardiovascular research.
3. To provide practical training in cardiovascular research methods.
4. To increase students' exposure to career and funding opportunities in the cardiovascular field.

Course Requirements

Code	Title	Hours
Core Courses		6
A minimum of six credit hours from the following list:		
PATH 766	Current Topics in Cardiovascular Biology	3
PATH 767	Molecular and Cellular Biology of Cardiovascular Diseases	3
PATH 920	Seminar in Interdisciplinary Vascular Biology	1
Electives		3
A minimum of three credit hours from the following list: ¹		
PATH 713	Molecular and Cellular Pathophysiological Basis of Disease: Mechanisms of Disease	3
CBPH 852	Cell Biology and Physiology in Health and Disease I	4.5
CBPH 853	Cell Biology and Physiology in Health and Disease II	4.5
PHCO 701	Introduction to Molecular Pharmacology	3
PHCO 702	Principles of Pharmacology and Physiology	3
BIOL 624	Developmental Genetics	3
Minimum Hours		9

¹ Please note that this is not an exhaustive list; for inquiries about courses not on this list, contact your program directors.

Non-Course Certificate Requirements

- Completion of thesis work (including a successful defense) with an MHI-associated faculty member **or** Completion of a thesis that contains a significant cardiovascular component as judged by the Certificate Program Faculty Advising Committee (Mack, Mackman, Taylor, and Caron).
- Attendance at the MHI sponsored cardiovascular seminar series.
- Participation in the IVB/MHI annual research symposium.

Chromatin and Epigenetics Certificate

Doctoral students interested in being formally part of the Program in Chromatin and Epigenetics can apply for admission into a certificate program. The goal of this program is to provide students with more emphasis on epigenetic mechanisms and further exposure to approaches and techniques used in epigenetic research.

Accepted students would be on track to receive a certificate in the program, but would receive their formal doctoral degrees in a related discipline (e.g., Biochemistry & Biophysics, Genetics, Molecular Biology Curriculum). Award of the certificate involves completion of several classes, and participation in the Carolina Chromatin Consortium seminars and yearly symposiums. We also require that each student attend and present (a poster or platform talk) at least one national or international meeting. Students should have at least two faculty members that are in the Chromatin and Epigenetics program on their thesis committee (one of which can be their mentor).

Interested students should contact Dr. Brian Strahl with a summary of their research project (as it relates to epigenetics) and CV.

Course Requirements

Code	Title	Hours
Core Courses		7
BIOC 631	Advanced Molecular Biology	
BIOC 702	Advanced Topics in Chromatin and Epigenetics	
BIOC 703	Seminars in Chromatin and Epigenetics ¹	
Electives ²		3
BIOC 706	Biochemistry of Human Disease	
GNET 621	Principles of Genetic Analysis I	
GNET 646	Mouse Models of Human Disease	
GNET 749	Practical RNA-Seq	
GNET 747	Next Generation Sequencing: Systems and Applications	
Minimum Hours		10

¹ Students must take this course twice.

² Other courses that are related to techniques and approaches used in epigenetic research may count towards these hours with approval.

Non-Course Certificate Requirements

Community Preparedness and Disaster Management Certificate

If you've been thinking about expanding your individual knowledge or you want to advance your career in disaster management, this program is a perfect fit. We run one cohort of students each year — beginning every January. Our application deadline is December 4 for January classes. The certificate is taught entirely online with an optional graduation attendance. There is no on campus time required. You will learn an "all hazards" approach to disaster management with an emphasis on building an emergency management system through partnering and networking.

Our cohorts recruit professionals from a variety of backgrounds, thus providing a rich environment of peer networking and learning. For example, it's not unusual for us to have a class that includes veterinarians, fire and medical responders, public health officials, military personnel and community leaders.

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.

Graduate students who are interested in taking all three certificate courses and earning the CPDM certificate must apply here: <https://applynow.unc.edu/apply/>

Course Requirements

Code	Title	Hours
Core Courses		
HPM 420	Community and Public Health Security: Disasters, Terrorism, and Emergency Management	3
HPM 422	Emergency Management I: Analytic Methods	3
HPM 423	Emergency Management II: Disaster Management	3
Minimum Hours		9

Non-Course Certificate Requirements

Computational Linguistics Certificate

Computational linguistics is an increasingly important skill area as companies such as IBM, Apple, Facebook, Google, Intel, Lionbridge, Microsoft, Oracle and many others seek employees who can develop products that employ machine algorithms to interface with human language. Crucially, computational linguistics is at the nexus of computer science, information science, and linguistics: the skills and expertise most sought by companies that hire people with training in computational linguistics or natural language processing is generally not attainable within a purely computer/information science or purely linguistics program.

This program provides students who wish to work in the areas of machine translation, machine learning, speech-to-text software, natural language processing, natural language generation, and artificial intelligence with an understanding of human language structure and the skills of linguistic analysis as well as the computational tools to develop software applications to parse and generate human language.

The Certificate in Computational Linguistics is available to currently enrolled graduate students in Linguistics, Computer Science, or Information Science, and in related areas (e.g., Speech and Hearing Sciences, Communication, Statistics, Digital Curation and Management, among others). In addition, this program is available to non-degree-seeking students who have appropriate background.

Course Requirements

Code	Title	Hours
Core Courses		
LING 401	 Introduction to Computational Linguistics	3
Electives		
A total of 9 credit hours of electives are required. Please choose from the linguistics and/or computer science/information science elective course options below.		9
Minimum Hours ¹		12

¹ If the student is already a graduate student in Linguistics, Information and Library Science, or Computer Science, the three electives that satisfy the Certificate must be taken in one or more departments outside their home department. If the student is a non-degree-seeking student, the three courses will be determined in consultation with the student's primary advisor, with the goal of supplementing prior training.

Code	Title	Hours
Linguistics Electives		
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 586	Natural Language Processing	3
COMP 590	Topics in Computer Science (NLP focus only) ^H	3
COMP 790	Topics in Computer Science (Introduction to Textual Data Analysis)	3
INLS 509	Information Retrieval	3
INLS 613	Text Mining	3

INLS 690	Intermediate Selected Topics (INLS 690.270 Data Mining: Methods and Applications)	3
LING 460	 Making Sense of Big Data: Textual Analysis with R	3
STOR 565	Machine Learning	3
Computer Science / Information Science Electives		
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

H Honors version available. An honors course fulfills the same requirements as the nonhonors version of that course. Enrollment and GPA restrictions may apply.

Non-Course Certificate Requirements

- Students are required to participate in a monthly brown bag seminar that features paper discussions and talks by computational linguists from academia and industry.
- Students are expected to engage in the life of the departments involved in this Certificate, attending as many talks, colloquia, and lab group meetings as are relevant to the student's primary areas of interest and which align with the student's career goals.

Cultural Studies Certificate

Cultural Studies at UNC encourages the examination of those areas of cultural knowledge where disciplines overlap, intersect, and collide, producing productive debate, fruitful collaboration and disciplinary self-reflection. It emphasizes the multiplicity and variety of cultural formations and practices both within American society and around the world and insists upon the historical and geographical specification of both "culture" and specific cultural practices within cultural studies. Cultural Studies at UNC provides opportunities for faculty and students from disparate disciplines to engage in discussion, teaching and research across common interests in questions of culture and power. It provides opportunities for students and faculty to encounter and engage with theories and methods that might open up new ways of approaching their own research and teaching.

Cultural Studies at UNC is designed to serve both undergraduate and graduate students, as well as the faculty of the University of North Carolina at Chapel Hill, and the other universities of North Carolina. It offers the opportunity for an undergraduate major and graduate certificate in cultural studies. It supports interdisciplinary courses, both individually and jointly taught, at both the undergraduate and graduate levels, and encourages new and experimental models for teaching). Every institutionalization of cultural studies is defined by the intellectual resources of its particular faculty and the traditions they represent. Cultural Studies at UNC draws on and serves a unique combination of disciplines, including communication, anthropology, sociology, history, geography, international and area studies, African-American studies, law, art, English, education, medicine and public health.

The strong presence of the historical, social, and biological sciences especially distinguishes UNC's program in Cultural Studies. Cultural Studies at UNC seeks to bring the excitement, fluidity, and relevancy of cultural studies research into the classroom, by combining curricular and programmatic concerns, and by placing pedagogical commitments at its center.

For further inquiries, please contact the program director, Dr. Michael Palm, at mpalm@email.unc.edu

Course Requirements

Code	Title	Hours
Core Course		
One graduate-level course explicitly devoted to Cultural Studies: COMM 700, COMM 855, or another course approved by the certificate director.		3
Electives		
Four graduate-level courses selected in consultation with the student's Cultural Studies adviser and the program director, two of which must be from outside the student's home department. These courses should be interdisciplinary, theoretically grounded, and connected with Cultural Studies even if not directly framed in those terms. Students are strongly encouraged to include work on questions of cultural/social difference, political economy, and contemporary cultural theory.		12
Minimum Hours		15

Non-Course Certificate Requirements

- Email a description of your completed courses to program director.

Developmental Disabilities Certificate

The CIDD offers a Certificate Program in Developmental Disabilities supported by the North Carolina University Center for Excellence in Developmental Disabilities (UCEDD). This program is tailored to graduate students interested in pursuing a career dedicated to improving the lives of individuals with intellectual and developmental disabilities (I/DDs). It is intended to provide graduate students with opportunities to demonstrate specialization in I/DDs. Core topic areas covered through participation in the certificate program include:

- Mechanisms and Etiology
- Clinical Presentation
- Family and Systems Issues
- Cultural Diversity
- Neuropsychological Assessment
- Evidence-Based Intervention
- Ethics

Course Requirements

Code	Title	Hours
Core Courses		
Nine total hours from the following group of courses:		
EDUC 763	Biological Bases of Children's Development	3
HSCI 862	Developmental Disabilities Across the Lifespan I: An Interdisciplinary Approach ¹	2

HSCI 864	Developmental Disabilities Across the Lifespan II: An Interdisciplinary Approach ¹	2
NBIO 800	Gene-Brain-Behavior Interactions in Neurodevelopmental Disorders: Perspectives on Disease Mechanisms	3
NBIO 801	Clinical Syndromes and Neurodevelopmental Disorders	3
CRMH 816	Evidence-Based Counseling Practices with People with Developmental Disabilities	1.5
HSCI 915	Developmental Disabilities: Current Research and Practice I	1
HSCI 916	Developmental Disabilities: Current Research and Practice II	1
SPHS 888	Autism and Other Developmental Disabilities in Children Who Are Deaf or Hard of Hearing I	1
SPHS 889	Autism and Other Developmental Disabilities in Children Who Are Deaf or Hard of Hearing II	1
Approved LEND or CIDD faculty-sponsored independent study ²		
Minimum Hours		9

¹ Available to LEND trainees only.

² Please note that this must be pre-approved by the certificate director.

Non-Course Certificate Requirements

- The expectation is to attend 50% of the following seminars within one academic year:
 - CIDD Community Talk Series (<https://www.med.unc.edu/cidd/training-education/community-talk-webinar-series/>): Please contact angela.cousin@cidd.unc.edu to be added to the email distribution list.
 - CIDD Investigator Forum Series (<https://www.med.unc.edu/cidd/training-education/other-education-activities/>): Please contact angela.cousin@cidd.unc.edu to be added to the email distribution list.
 - CIDD Didactic Lecture Series (<https://www.med.unc.edu/cidd/training-education/other-education-activities/>): This seminar series is part of HSCI 915 or HSCI 916, in which case full attendance is required.
- Dissertation/thesis/final project requirement: Dissertation/thesis/final projects of certificate program participants must include a developmental disabilities component, though these projects need not necessarily be defended prior to earning the certificate. Additionally, at least one dissertation/thesis/final project committee member must be either a CIDD faculty member or a DD-focused UNC-CH faculty member approved by the certificate program's advisory panel faculty.

Developmental Psychology Certificate

The faculties in developmental psychology at the University of North Carolina at Chapel Hill and Duke University offer a collaborative approach to graduate training in developmental psychology: the UNC-Duke Collaborative Graduate Certificate Program in Developmental Psychology. Graduate students at Duke in the Department of Psychology & Neuroscience and students in UNC's Department of Psychology & Neuroscience can apply to this program that offers training opportunities in addition to those of their home department. Students in the

certificate program attend developmental talks at both universities and have opportunities to take developmental seminars or engage in supplemental research training with the faculty of their non-home university. Among the research emphases of the participating faculty are cognitive development, social development, applied development, and developmental psychobiology. Students apply to the program by the beginning of their third year of graduate study.

Course Requirements

Code	Title	Hours
Core Courses		
Minimum of two developmentally relevant psychology courses at the non-home institution.		6
One home-institution course focused on developmental psychology.		3
Minimum Hours		9

Non-Course Certificate Requirement

- Each student must participate in a research activity with a developmental faculty member from the non-home university. This requirement may be fulfilled in various ways as deemed appropriate by the faculty member providing the experience (e.g., by enrolling in a formal research practicum course, by collaborating on a research project for no course credit, or by employment as a research assistant).
- Students are expected to attend at least three Program-affiliated developmental events each semester at the non-home institution. These events include talks organized by the Center for Developmental Science and the Center for Child and Family Policy, the Colloquium series at both universities, the brown bag developmental research and current topics groups that meet regularly at both universities, and other Program-affiliated events that may emerge in the future.

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. 40) and the Digital Storytelling Certificate (p. 40). 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

Non-Course Certificate Requirements

Digital Humanities Certificate

If the humanities can be defined as preserving, reconstructing, transmitting, and interpreting the human record with the goal of producing a better understanding of ourselves and our place in the world, digital humanities is concerned with leveraging revolutionary technological change in the advancement of these practices. Digital humanities is not merely the use of computers and other new technologies as tools by humanists, but rather a continuous and reflexive engagement with emerging digital technologies and approaches to open up new fields of knowledge and map new intersections among humanities disciplines and between the humanities and other intellectual domains: the sciences, social science, and the arts. The development of digital humanities as a significant area of academic practice over the past decade has been marked by the establishment of the Office of Digital Humanities in the National Endowment for the Humanities, earmarking of fellowship opportunities by the American Council of Learned Societies, formation of professional organizations, launch of academic journals, and national and international scholarly conferences.

Course Requirements

Code	Title	Hours
Core Courses		
AMST 795	Digital Humanities Field Experience	1
Electives		
9 credit hours from any of the elective course options below. These lists are not exclusive. With advisor or director approval, additional courses may fulfill these requirements.		9
Minimum Hours		10

Code	Title	Hours
UNC - Chapel Hill Electives		
AMST 498	Advanced Seminar in American Studies	3
AMST/HIST 671	Introduction to Public History	3
AMST 840	Digital Humanities/Digital American Studies	3
AMST 850	Digital Humanities Practicum	3
ANTH 419	 Anthropological Application of GIS ¹	3
ANTH 454	The Archaeology of African Diasporas ²	3

ARTH 851	alt-Methods: Digital Art History	3
BMME 775	Image Processing and Analysis ³	3
COMM 431	 Advanced Audio Production	3
COMM 453	 The History of New Media Technology in Everyday Life	3
COMM 635	 Documentary Production	3
COMM 638	 Game Design ⁴	3
COMM 644	 Documentary Production: First Person Filmmaking	3
COMM 650	Cultural Politics of Global Media Economies ⁵	3
COMM 654	 Motion Graphics, Special Effects, and Compositing ⁶	3
COMM 666	 Media in Performance	3
COMM 682	History of the Moving Image: Pasts, Presents, Futures	3
COMM 856	Seminar in Communication Technology	3
COMP 410	Data Structures	3
COMP 411	Computer Organization	4
COMP 426	Modern Web Programming	3
COMP 590	Topics in Computer Science ^H	3
EDUC 790	Special Topics in Education - Graduate	3
ENGL 674	Digital Literature	3
ENGL 676	 Digital Editing and Curation	3
ENGL 709	Technologies of Literary Production	3
ENGL 801	Research Methods in Composition and Rhetoric	3
GEOG 410	 Modeling of Environmental Systems	3
GEOG 491	Principles of Geographic Information Systems	3
GEOG 541	GIS in Public Health	3
GEOG 577	 Advanced Remote Sensing	3
GEOG 591	 Applied Issues in Geographic Information Systems	3
GEOG 592	 Geographic Information Science Programming ⁷	3
GEOG 594	Global Positioning Systems and Applications ⁸	3
GEOG 650	 Technology and Democracy Research	3
HIST 490	Special Topics in History ^H	3
HIST 890	Topics in History for Graduates ⁹	3
INLS 465	Understanding Information Technology for Managing Digital Collections	3
INLS 509	Information Retrieval	3
INLS 512	Applications of Natural Language Processing	3
INLS 520	Organization of Information	3
INLS 523	Introduction to Database Concepts and Applications	3
INLS 525	Electronic Records Management	3
INLS 541	Information Visualization	3
INLS 550	History of the Book and Other Information Formats	3
INLS 560	Introduction to Programming	3
INLS 561	Digital Forensics for Curation of Digital Collections ¹⁰	3
INLS 572	Web Development	3

INLS 582	Systems Analysis	3
INLS 613	Text Mining	3
INLS 620	Distributed Knowledge Graphs I: Core Concepts and Standards	3
INLS 623	Database Systems II: Intermediate Databases	3
INLS 690	Intermediate Selected Topics ¹¹	3
INLS 700	Scholarly Communication	3
INLS 718	User Interface Design	3
INLS 720	Data Practices and Standards ¹²	3
INLS 752	Digital Preservation and Access	3
INLS 760	Web Databases	3
INLS 890	Advanced Special Topics ¹³	3
MUSC 676	Digital Media and Live Performance	3
MEJO 440	Digital Media Law and Society	3
MEJO 449	Blogging, Smart Mobs, and We the Media	3
MEJO 561	Environmental and Science Video Storytelling	3
MEJO 581	User Experience Design and Usability	3
MEJO 582	Advanced Documentary Video Storytelling	3
MEJO 583	Advanced Interactive Media	3
MEJO 585	3D Design Studio	3
MEJO 671	 Social Marketing Campaigns ^H	3
MEJO 782	Digital Content Creation ¹⁴	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.

Code	Title	Hours
Duke Electives		
AMES 535 / ISIS 535		
ARTHIST 190S ¹⁵		
ARTHIST 551LS ¹⁶		
CLST 724S		
DOCST 365S / VMS 365S / AMI 365S		
DOCST 765S		
HCVIS 580S		
ISIS 380S		
ISIS 510S / VMS 566S ¹⁷		
ISIS 580S		
ISIS 590S ¹⁸		
ISS 581S		
ISIS 650S		
ISIS 670		
LIT 615S / ICS 615S		
VMS 550S		
VMS 551SL		
VMS 565S		
VMS 575S / ISIS 575S / MUSIC 575S / AMI 575S		
VMS 580S		
VMS 590S / ECE 590		
VMS 713		

Code	Title	Hours
NC State Electives		
ADN 419		
ADN 423		
ADN 502		
ADN 503 ¹⁹		
ADN 561		
COM 537		
COM 547		
COM 581 / 798		
COM 598		
CSC 582		
CRD 702		
ECI 511		
ECI 512		
ECI 513		
ECI 514		
ECI 515		
ECI 546		
ENG 506		
ENG 519		
ENG 582		
ENG 583		
ENG 584		
ENG 585 / CDR 791		
ENG 587		
GIS 410 / 510		
HI 534		
HI 595		
HI 599		

Code	Title	Hours
NC Central Electives		
LSIS 5420		
LSIS 5425		
LSIS 5440		
LSIS 5451		
LSIS 5452		
LSIS 5460		
LSIS 5614		
LSIS 5820		
LSIS 5830		
LSIS 5835		
LSIS 5883		

- ¹ Approved Sections: 001
- ² Approved Sections: 079
- ³ Approved Sections: 001
- ⁴ Approved Sections: 001
- ⁵ Approved Sections: 001
- ⁶ Approved Sections: 001
- ⁷ Approved Sections: 001
- ⁸ Approved Sections: 001

- ⁹ Approved Sections: 02 (Introduction to Digital Humanities) and 05 (Digital History: Trends, Challenges and the Future of the Historical Method)
- ¹⁰ Approved Sections: 001
- ¹¹ Approved Sections: 01W (Fundamentals of Programming Applications for Applied Data Science), 02W (Data Ethics for Applied Data Science), 163W (Information Analytics/Intro to Big Data and NoSQL), 165 (Web Development), 172 (Usability Testing and Evaluation), 187 (Issues in Cloud Computing), 189 (Social Media and Society), 270 (Community Archiving), 224 (Visual Analytics), 226 (Digital Humanities), 227 (Mobile Web Development), 230 (Community Data Lab), 242 (Data Sharing Among Scientists), 246 (Digital Textual Scholarship: An Introduction to Text Encoding, Text Editing, and Distant Reading), 249 (Copyright and Intellectual Property Issues in Archives), 270 (Data Mining: Methods & Applications), and 189 (Big Data, Algorithms, and Society)
- ¹² Approved Sections: 01W (Metadata)
- ¹³ Approved Sections: 186 (Making the Humanities Digital)
- ¹⁴ Approved Sections: 001 (multimedia Storytelling)
- ¹⁵ Approved Sections: 01 (The Medieval Castle in Britain)
- ¹⁶ Approved Sections: 01 (Wired! New Representational Technologies: Chateaux of the Loire Valley: Architecture, Court Life, and Warfare in Renaissance France)
- ¹⁷ Approved Sections: 01 (How They Got Game)
- ¹⁸ Approved Sections: Media: Data and Experience; Post-Cinema; and Computational Cinematography.
- ¹⁹ Approved Sections: 001 (Storytelling Through Films)

Non-Course Certificate Requirements

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. 37) and the Digital Storytelling Certificate (p. 40). 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 719	Leadership and Entrepreneurship	3
MEJO 722	The Business of Media	3
MEJO 724	Reputation Management	3
Minimum Hours		9

Non-Course Certificate Requirements

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. 37) and Digital Media Management Certificate (p. 40). 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 711	Multi-platform Storytelling	3
MEJO 723	Visual Literacy and User Experience	3

MEJO 725	Media Innovation in Practice	3
Minimum Hours		9

Non-Course Certificate Requirements Field Epidemiology Certificate

In recent years, new threats — including new strains of existing diseases — have posed risks to public health around the globe. At the same time, the field continues to face a shortage of adequately trained epidemiologists.

The online certificate in Field Epidemiology prepares working public health practitioners to confront these pressing issues. Students will learn about the core functions of outbreak investigation, surveillance systems and methods, and infectious disease epidemiology.

Students will further explore ways to deal with these threats by using the latest technology in the field.

Course Requirements

Code	Title	Hours
Core Courses		
EPID 600	Principles of Epidemiology for Public Health	3
EPID 750	Fundamentals of Public Health Surveillance	3
EPID 759	Methods in Field Epidemiology	3
Minimum Hours		9

Non-Course Certificate Requirements Film Studies Certificate

The Department of English & Comparative Literature is a central hub for the study of cinema at UNC-Chapel Hill. Graduate students can earn their Graduate Certificate in Film Studies through the Department of English and Comparative Literature. Pursuing the Graduate Certificate in Film Studies gives students opportunity to demonstrate their work in a growing area of study within the humanities. The certificate program also encourages students to take film related courses taught by other departments here at UNC, some of which include American Studies, Communications, Art & Art History, Romance Studies, and African, African American, & Diaspora Studies.

Course Requirements

Code	Title	Hours
Core Courses		
ENGL 680 or ENGL 881	 Film Theory Studies in Cinema	3
Electives		
6 minimum credit hours of elective courses are required from the list below.		6
Minimum Hours		9

Code	Title	Hours
Electives		
ENGL 410	 Documentary Film ^H	3
ENGL 494	 Research Methods in Film Studies	3
ENGL 681	 Topics in Contemporary Film and Media ^H	3
CMPL 463	 Cinema and Surrealism	3

GERM 880	Topics in German Cinema	3
FREN 586	Studies in French Cinema	3
SPAN 661	Film Studies: Iberia and the Americas	3
ROML 707	Film Theory and Criticism	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.

Non-Course Certificate Requirements

Contribution to the program

Example opportunities:

- Organize film studies events
- Present original research

Geographic Information Science Certificate

The Graduate Certificate Program in Geographic Information Sciences offered within the Department of Geography and Environment is designed to educate and train students in Geographic Information Sciences with a focus on remote sensing, geographic information systems (GIS), and spatial analysis. The UNC-CH program is unique in the combination of basic theory with a focus on the practical application of knowledge in public health, ecology, planning, business, and other areas. The program is designed to serve (1) current students who wish to acquire cutting edge geospatial technical expertise to support the topical knowledge gained in their undergraduate and graduate programs, and (2) returning students who wish to acquire specialized education and training to meet current or future job requirements calling for knowledge in geographic information sciences.

Course Requirements

Code	Title	Hours
Core Courses		
GEOG 477 or GEOG 577 or GEOG 567	 Introduction to Remote Sensing of the Environment ¹  Advanced Remote Sensing  Geospatial Data Analysis with Google Earth Engine	3
GEOG 491 or GEOG 591	Principles of Geographic Information Systems  Applied Issues in Geographic Information Systems	3
GEOG 515 or GEOG 567 or GEOG 592	 Applied Spatial Data Science ¹  Geospatial Data Analysis with Google Earth Engine  Geographic Information Science Programming	3

Electives

Students are required to take three total electives with at least one being a GEOG elective totaling 9 credit hours. Please note that if students select one of the following electives to fulfill a core requirement, the course credit will not count towards the elective minimum hours requirement.

Minimum Hours 18

¹ If students take GEOG 567 for one requirement, it will not be able to count towards fulfilling the second requirement.

Code	Title	Hours
Electives		
One Geography Elective:		
GEOG 410	 Modeling of Environmental Systems	3
GEOG 446	Geography of Health Care Delivery	3
GEOG 456	 Geovisualizing Change	3
GEOG 477	 Introduction to Remote Sensing of the Environment	3
GEOG 491	Principles of Geographic Information Systems	3
GEOG 515	 Applied Spatial Data Science	3
GEOG 541	GIS in Public Health	3
GEOG 544	Geographic Information Systems for Impact Evaluation and Health Studies	3
GEOG 555	Cartography of the Global South	3
GEOG 567	 Geospatial Data Analysis with Google Earth Engine	3
GEOG 570	 Geographic Information Analysis	3
GEOG 577	 Advanced Remote Sensing	3
GEOG 591	 Applied Issues in Geographic Information Systems	3
GEOG 592	 Geographic Information Science Programming	3
GEOG 594	Global Positioning Systems and Applications	3
GEOG 790	Spatial Analysis and Computer Modeling	3
GEOG 802	Research Seminar in Geographic Information Sciences	3
Two other courses (may select either Geography or options from the list below):		
ANTH 419	 Anthropological Application of GIS	3
ANTH 490	Undergraduate Seminar in Anthropology	3
ANTH 897	Seminar in Selected Topics (Archeological Visualization)	3
BIOL 465	 Global Biodiversity and Macroecology	3
COMP 426	Modern Web Programming	3
COMP 572	Computational Photography	3
COMP 775	Image Processing and Analysis	3
EMES 508	Global Hydrology	3
EMES 561	Time Series and Spatial Data Analysis	3
ENEC/EMES 415	Environmental Systems Modeling	3
ENEC 468	Temporal GIS and Space/Time Geostatistics for the Environment and Public Health	3
ENEC 479	Landscape Analysis	3
INLS 523	Introduction to Database Concepts and Applications	3
INLS 541	Information Visualization	3
INLS 641	Visual Analytics	3
SOCI 718	Longitudinal and Multilevel Data Analysis	3
PLAN 672	Urban Data Analytics	3

Non-Course Certificate Requirement Contact Information

Director of the GISc Certificate Program

Erika Wise

ekwise@email.unc.edu

Global Health Certificate

The Public Health Leadership and Practice (PHLP) Department offers an online Certificate in Global Health for working health professionals around the world. The Online Global Health Certificate is a formal academic certificate for degree (excluding Gillings MPH students) and non-degree seeking students that examines the complexities inherent in improving health on a global scale. This is a 9-credit certificate.

Course Requirements

Code	Title	Hours
Core Courses		
PUBH 711	Critical Issues in Global Health	3
PUBH 712	Global Health Ethics	3
PUBH 714	Introduction to Monitoring and Evaluation	3
Minimum Hours		9

Non-Course Certificate Requirement Healthcare Management Certificate Overview

The certificate requires a minimum of 9 credit hours 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. Please note that HPM 728 (4 credits) can be substituted with HPM 730 (3 credits) and HPM 753 (4 credits) can be substituted with HPM 754 (3 credits).

Course Requirements

Code	Title	Hours
HPM 730	Leadership and Workforce Management Strategies	3
or HPM 728	Leadership and Workforce Management Strategies	
HPM 754	Health Care in the United States Structure and Policy	3
or HPM 753	Health Care in the United States: Structure and Policy	
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		9

Non-Course Certificate Requirements

Health Systems Pharmacy Administration and Leadership Certificate

The UNC Eshelman School of Pharmacy Health System Pharmacy Administration and Leadership Training Program provides options for pharmacists and pharmacy technicians to gain important knowledge and skills in health system pharmacy administration to enhance their current role or prepare for a future career move.

Course Requirements

Code	Title	Hours
Core Courses		
PACE 815	Evaluation Research and Project Design	3
PACE 820	Health-System Pharmacy Leadership	3
PACE 833	Overview of Health Systems	3
Minimum Hours		9

Non-Course Certificate Requirements Improvement Science and Implementation Interprofessional Certificate

An Interprofessional Graduate Certificate in Improvement Science & Implementation for degree and non-degree-seeking students offers a new paradigm for preparation in the professions, one that promises to be a powerful driver of organizational improvement for the nation's schools, hospitals, social service agencies, community clinics, and nonprofits. The certificate is designed around six core competencies. Students will learn to:

- Understand the Problem: Knowing why you need to improve relies on understanding the problem and its root causes from multiple, diverse perspectives, perspectives that come from interprofessional teams of practitioners, researchers, and community members.
- Derive Change Ideas From Evidence and Human-Centered Design: Insights about change ideas come from evidence and collaborations with community members. Evidence is rooted in research, the practice expertise of field professionals, and the communities in which change is occurring. Human- and equity-centered design thinking is a creative problem-solving process that centers the voices, experiences, and aspirations of those most directly impacted by the problem and/or innovation, convergent and divergent thinking, as well as rapid prototyping.
- Put Change Ideas Into Practice: Methods and approaches from implementation and improvement science are used to increase the uptake of change in everyday practice.
- Set and Sustain Conditions for Change at Scale: Strong leadership is needed to galvanize improvement teams toward a common purpose. Scaling strategies and relational leadership tools can help engage community and practice partners in deep and consequential change that is sustained over time and spread throughout a system.

- Test if Change Ideas are Improvements: Continuous quality improvement and implementation tools are used to test out and modify change ideas to optimize both processes and outcomes.
- Engage Interprofessional Networks to Accelerate Organizational Learning: Networked improvement communities are sources of innovation, enable fast replication, and can powerfully drive the diffusion of ideas. Ensuring that networks include a collegueship of experts from across professions builds from the knowledge that none of us can achieve apart that which we can together.

Expanding Career Opportunities: An Interprofessional Graduate Certificate in Improvement Science and Implementation puts you ahead of the competition for leadership positions in education, healthcare, social services, and related fields.

Course Requirements

Code	Title	Hours
Core Courses		
EDUC 850	Change Leadership and Systems Improvement	3
HBEH 658	Rapid Prototyping	3
EDUC 791	Providing Specially Designed Instruction	3
Minimum Hours		9

Non-Course Certificate Requirements

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
Innovation (3 total credit hours from this section)		3
GRAD 717	Introduction to Entrepreneurship and The Entrepreneurial Mindset	
GRAD 755	Fundamentals of Technology Commercialization	
GRAD 756	Research to Revenue - University Startups	
GRAD 760	AI in the Workplace	
Leadership (3 total credit hours from this section)		3
GRAD 712	Leadership in the Workplace	
GRAD 715	Professional Communication	
GRAD 725	Build Your Professional Brand	

GRAD 727	Team Collaboration	
Management (3 total credit hours from this section)		3
GRAD 713	Project Management: Frameworks, Principles and Techniques	
GRAD 714	Introduction to Financial Accounting	
GRAD 726	Executive Perspective: Business Fundamentals	
GRAD 751	Consulting Fundamentals For Adv. Professional Degree Graduate Students	
GRAD 758	Managing People and Professional Relationships	
Minimum Hours		9

Non-Course Certificate Requirements

Innovation for the Public Good Certificate

The Carolina Graduate Certificate in Innovation for the Public Good (CIPG) gives master's and doctoral students an educational pathway to explore modern design thinking and innovation changemaking 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. Additional promotional and operational support is provided by Innovate Carolina.

CIPG provides students from any department design thinking and innovation mindsets, tools and methods they need to work effectively across disciplines to solve complex problems and create innovations for the public good. By earning the certificate, students become skilled in methods that they can apply to their doctoral or thesis research. CIPG also equips them with career-ready skills that they can use when working on multi-disciplinary teams in businesses, non-profits and government agencies that increasingly demand the ability to apply cross-sector, community-engaged practices.

Course Requirements

Code	Title	Hours
Core Course		
Foundational Design Thinking Course:		
HBEH/PLCY 748	Design Thinking for the Public Good	3
or EDUC 818	School Psychology Intervention and Assessment III	
Electives		
Students must take a total of 3 credits for Innovation Methods, Tools, and Best Practices. See viable course options below.		3
Students must take a total of 3 credits for Social Innovation in Practice. See viable course options below.		3
Minimum Hours ¹		9

¹ CIPG students are required to take at least 3 credits outside of their home school. For example, if you are a Gillings student and take HBEH 748 and HPM 890, which are both offered through Gillings, you will need to take your final 3-credit course outside of Gillings. (LC: Students in the College of Arts and Sciences need to take at least 3 credits outside of their home department and PLCY students cannot enroll in the HBEH 748 section of the course to satisfy this requirement.)

Code	Title	Hours
Innovation Methods, Tools and Best Practices Electives		
HPM 890	Special Topics in HPM (HPM 890.013 Systems Thinking & Collective Impact) ²	3
PLCY 745	Mixed Methods and Program Evaluation ²	3
PLCY 790	Social Entrepreneurship ²	3
PUBH 718	Systems and Design Thinking for Public Health Leaders ²	3
ANTH 898	Seminar in Selected Topics (Decolonizing Methodologies)	3
BUSI 521	Design Thinking: The Innovation Process for Complex Problems	3
EDUC 767	Introduction to Educational Innovation	3
EDUC 845	Instructional Strategies for Teaching and Learning in Digital Contexts	3
GEOG 541	GIS in Public Health	3
HBEH 690	Special Topics in Health Behavior (Rapid Prototyping)	3
HBEH 730	Theoretical Foundations of Health Behavior	3
HBEH 749	mHealth for Behavior Change	2
HBEH 753	Qualitative Methods in Health Behavior	3
HPM 715	Health Economics for Policy and Management	3
HPM 742	Health Care Finance	3
HPM 743	Health Care Reimbursement	1
HPM 745	Financial Management and Analysis for Public and Nonprofit Entities	3
HPM 760	Healthcare Quality and Information Management	3
HPM 767	Implementation Science in Health	3
HPM 772	Techniques for the Economic Evaluation of Health Care	3
INLS 534	Youth and Technology in Libraries	3
INLS 719	Usability Testing and Evaluation	3
MBA 804D	Managing and Communicating in Turbulent Times	2
MBA 833A	SYSTEMS THINKING: SUST (Taught in seminar (weekend) format.)	3
MBA 833D	Sustainability Reporting & Certification (Taught in seminar (weekend) format.)	3
MBA 850A	Sustainable Community Development	3
MEJO 463	News Lab: Creating Tomorrow's News Products	3
MEJO 530	Green Brand Lab	3
MEJO 560	Environmental and Science Journalism ^H	3
MEJO 581	User Experience Design and Usability	3
MEJO 811	Persuasion and Social Influence	3
MEJO/HBEH 825	Seminar in Interdisciplinary Health Communication	3
MHCH 722	Global Maternal and Child Health	3
NURS 960	Proseminar in Nursing (A series of three 1-credit courses.)	3
PLAN 576	 Urbanism in the Global South	3
PLAN 636	 Urban Transportation Planning	3
PLAN 639	 Complete Streets	3
PLAN 738	Transportation Policy and Planning	3
PUBH 754	Research Frameworks and Methods for Assessing and Improving Population Health	3

PLCY 770	Impact Investing and Community Finance	3
PLCY 799	Selected Topics in Public Policy (Nonprofits and Public Policy)	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.

² Highly recommended course options.

Code	Title	Hours
Social Innovation in Practice Electives		
EDUC 758	Immigration and Education	3
EDUC 761	Design of Emerging Technologies for Education	3
EDUC 919	Design of Technology-Enhanced Learning Environments	3
FOLK 790	Public Folklore	3
GEOG 435	 Global Environmental Justice	3
GLBL 450H	 Social Change in Times of Crisis: Knowledge, Action, and Ontology	3
GLBL 481H	 NGO Politics	3
GLBL 487H	 Social Movements: Rethinking Globalization	3
GLBL 489	 Paradigms of Development and Social Change ^H	3
GLBL 890	Special Topics in Global Studies (Approaches to Conflict Transformation)	3
GRAD 717	Introduction to Entrepreneurship and The Entrepreneurial Mindset	1.5
HBEH 705	Lesbian, Gay, Bisexual, Transgender and Queer Health: A Population Perspective	3
HBEH 765	Cancer Prevention and Control Seminar	3
HBEH 775	Introduction to Public Health Policy and The Policy-Making Process	3
HPM 730	Leadership and Workforce Management Strategies	3
HPM 745	Financial Management and Analysis for Public and Nonprofit Entities	3
HPM 758	Underserved Populations and Health Reform	3
HPM 767	Implementation Science in Health	3
INLS 584	Information Ethics	3
INLS 737	Inclusive Information Services for Diverse Populations	3
MBA 803C	Corporate Communication: Social Advocacy and Activism	3
MBA 824	MGMT WORKPLACE DIVERSITY	3
MBA 848A	StartUp-UNC I	1.5
MBA 848B	StartUp-UNC II	1.5
MEJO 530	Green Brand Lab	3
NURS 425	Global and Interprofessional Approaches to Solve Complex Cases	3
PLAN/ENEC 420	Community Design and Green Architecture	3
PLAN 651	Urban Form and the Design of Cities	3
PLAN 764/ PUBA 734	Community Development & Revitalization Techniques	4.5
PLCY 483	 Natural Disasters, Inequality, and Public Policy	3

PLCY 485	Poverty, Health, and Human Development in Low Income Countries	3
PLCY 530	 Educational Problems and Policy Solutions ^H	3
PLCY 661	Global Health Law & Policy	3
PLCY 662	Global Health and Human Rights	3
PUBA 731	Public Budgeting and Finance	3
PUBA 734	Community Development & Revitalization Techniques	4.5
PUBA 738	Managing Local Government Services	3
PUBA 756	Nonprofit Management	3
PUBA 757/ SOWO 885	Financial Management of Nonprofit Organizations	3
PUBA 758	Navigating Nonprofit Local Government	3
PUBA 763	Grant Writing and Evaluation	1.5
PUBH 718	Systems and Design Thinking for Public Health Leaders	3
PUBH 730	Leading Continuous Quality Improvement (CQI) in Public Health Locally And Globally	3
PUBH 731	Public Health Social Marketing	3
PUBH 783	Mass Criminalization, Mass Incarceration & Public Health	3
PUBH 791	Core Principles in Public Health Leadership	3
SOWO 750	Cognitive Behavioral Therapy	1.5
SOWO 764	Motivational Interviewing for the Treatment of Addictive and Mental Health Disorders	1.5
SOWO 792	Program Development and Proposal Preparation	1.5
SOWO 793	Asset Development Practice	1.5
SOWO 881	Development Theory and Practice in Global Settings	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.

Non-Course Certificate Requirements

- Community of practice requirement

Intellectual and Developmental Disabilities (I/DD) and Neurodiversity (ND) Specialty Certificate

Intellectual and Developmental Disabilities (I/DD) and Neurodiversity (ND) Specialty Certificate is designed to equip learners with both theoretical knowledge and practical skills to support individuals with Intellectual and Developmental Disabilities (I/DD) and neurodivergent (ND) conditions. The program focuses on fostering a deep understanding of the diverse experiences of individuals with I/DD and/or ND and their families and caregivers, while emphasizing inclusive practices that enhance their quality of life and opportunities for participation in all aspects of society. At the completion of this program learners will have a comprehensive understanding of I/DD and ND with the knowledge and skills needed to provide holistic, individualized supports that promote dignity, inclusion, and empowerment.

This certificate program provides learners with foundational and advanced knowledge in disability and neurodiversity-affirming best

practices. Participants will gain a deep understanding of intellectual and developmental disabilities (I/DD) and neurodivergence (ND), historical and cultural contexts, effective communication and support strategies, and ethical and legal frameworks. The program emphasizes interdisciplinary collaboration, advocating for systemic change, and promoting community integration and inclusion. Learners will develop the skills necessary to navigate service systems, advocate for and foster culturally responsive and respectful practices for individuals with I/DD or ND and their families.

Course Requirements

Code	Title	Hours
Core Courses		
SOWO 709	Special Topics in Human Behavior and Social Environment	1.5
SOWO 769	Special Topics in Direct Practice	3
SOWO 799	Special Topics in Macro Practice	3
SOWO 837	Disability Policy	1.5
Electives		
A total of 3 credit hours are required. The electives list below provides a range of options; other courses may also fulfill this requirement with program director approval.		3
Minimum Hours		12

Code	Title	Hours
Electives		
SOWO 700	Treatment Foundation for Problematic Substance Use and Process Addictions	3
SOWO 705	Mental Health Recovery and Psychiatric Rehabilitation (January-March)	1.5
SOWO 709	Special Topics in Human Behavior and Social Environment (Social Work with Immigrants and Refugees; March-May)	1.5
SOWO 739	Special Topics in Policy (Immigration & Citizenship Law and Policy; January-March)	1.5
SOWO 741	Integrated Behavioral Health Care with Underserved Populations	1.5
SOWO 742	The Satir Growth Model: Enhancing Individual, Couple, Family and Organizational Health (2/4, 2/11, 3/4)	1.5
SOWO 743	SW at the Interface of the MH & Criminal Justice Systems: Practice, Policy, and Research (March-May)	1.5
SOWO 750	Cognitive Behavioral Therapy (January-March)	1.5
SOWO 751	Behavioral Intervention with Children (January-March)	1.5
SOWO 758	Differential Diagnosis of Mental Health Disorders (March-May)	1.5
SOWO 760	Clinical Practice with Addictive Disorders	3
SOWO 761	Practice with Diverse Populations Affected by Addiction	3
SOWO 764	Motivational Interviewing for the Treatment of Addictive and Mental Health Disorders	1.5
SOWO 765	Social Work Practice with Groups	1.5
SOWO 766	Dialectical Behavioral Therapy: Theory and Practice	1.5
SOWO 767	Differential Diagnosis and Case Formulation	3

SOWO 769	Special Topics in Direct Practice (Core Competencies and Skills Trauma Informed Practices with Children and Adolescents)	3
SOWO 792	Program Development and Proposal Preparation	1.5
SOWO 793	Asset Development Practice	1.5
SOWO 799	Special Topics in Macro Practice (Community Organizing, Facilitation)	1.5
SOWO 853	Approaches to Brief Treatment	3
SOWO 855	Treatment of Trauma and Violence	3
SOWO 856	Care of the Dying and Bereaved	3
SOWO 860	Child Welfare Perspectives and Practices	3
SOWO 883	Marketing and Fundraising for Nonprofit Organizations	3

Non-Course Certificate Requirements

- Practicum placement in the specialization year will focus on I/DD and/or ND. MSW students will put their classroom knowledge into practice through real-world experiences during their practicum placement. Please contact your program director for detailed advising.

Jewish Studies Certificate

Carolina's Jewish studies certificate program for graduate students is the first of its kind at any college or university in North Carolina. The program is available to degree seeking graduate students studying in the humanities and social sciences at Carolina. It includes opportunities for graduate students to explore Jewish languages, culture, literature and history in both their coursework and research endeavors.

Course Requirements

Code	Title	Hours
Core Courses		
Students are required to take a total of 9 credit hours. JWST 697 is highly encouraged. Courses must be approved by the Jewish Studies Certificate Director.		9
Minimum Hours		9

Non-Course Certificate Requirements

- Students are required to submit a major seminar paper, a section of a broader thesis, or a dissertation on a topic related to Jewish Studies.
- Students must demonstrate relevant language skills either by taking advanced language courses or by using primary language texts in a major research project.

Latin American Studies Certificate

Graduate students seeking to document their area expertise are encouraged to earn a Certificate in Latin American Studies in conjunction with an advanced degree in any UNC-CH graduate program. Candidates demonstrate expertise in Latin America through their graduate or professional field but are also encouraged to pursue interdisciplinary studies to enhance their professional development.

Course Requirements

Code	Title	Hours
Core Courses		
Please note, there are no core courses that are required; rather, students build their list of courses that fulfill the credit hours requirement through Director approval.		
Minimum Hours		12

Non-Course Certificate Requirements

- A thesis, dissertation proposal, or major departmental paper on a topic related to Latin America.
- An oral defense of the thesis or dissertation prospectus/proposal. For students in professional schools or departments that do not require defense of a thesis, a letter from the student's adviser indicating that graduate level coursework and research on a Latin American topic was successfully completed will be sufficient to waive the requirement.
- Language competence in Spanish or Portuguese. Non-native speakers must have the Language Evaluation Form filled out by a qualified language instructor.
- A minimum of two semesters of residence at UNC-CH.

Leadership Academy Certificate Overview

The Leadership Academy Certificate (<https://onlinemba.unc.edu/academics/leadership-academy-certificate/>) at UNC Kenan-Flagler's Online MBA 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 Online MBA 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 803T	Storytelling to Influence and Inspire	
MBA 804D	Managing and Communicating in Turbulent Times	
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 840B	Leading Groups and Teams	
MBA 892	MBA@UNC Global Immersion Experience (Summit Track: Personal Leadership) ^H	
MBA 892	MBA@UNC Global Immersion Experience (Summit Track: Team Leadership) ^H	

MBA 892 MBA@UNC Global Immersion Experience (Summit Track: Organizational Belonging)^H

Minimum Hours **10**

^H Honors version available. An honors course fulfills the same requirements as the nonhonors version of that course. Enrollment and GPA restrictions may apply.

Non-Course Certificate Requirements Literature, Medicine, and Culture Certificate

Graduate and professional students in good academic standing are eligible to earn an additional credential in health humanities from the Department of English & Comparative Literature. This certificate draws on multiple disciplinary approaches to health and humanities to train students in the interdisciplinary approaches that shape Health Humanities as a research area.

Course Requirements

Code	Title	Hours
Core Courses		
ENGL 763 or ENGL 695	Introduction to Methods in Health Humanities  Research Seminar	3
Electives		
Complete 6 credit hours of elective courses from the list below. Course substitutions must be approved by the DCP. At least one elective must be 600-level or higher.		6
Minimum Hours		9
Electives		
AMST 715	Community Histories and Public Humanities	3
ANTH 405	 Mental Health, Psychiatry, and Culture	3
ANTH 430	 War, Medicine, and the Military	3
ANTH/WGST 441	The Anthropology of Gender, Health, and Illness	3
ANTH/WGST 442	Health in Socialist, Liberal, and Illiberal Upheavals	3
ANTH/WGST 443	 Cultures and Politics of Reproduction	3
ANTH/WGST 445	 Migration and Health	3
ANTH 448	 Health and Medicine in the American South	3
ANTH 473	Anthropology of the Body and the Subject	3
ANTH 582	 Fieldwork with Social Models of Well-Being	3
ANTH 585	Anthropology of Science	3
ANTH 624	 Anthropology and Public Health	3
ANTH 649	Politics of Life and Death	3
ANTH 750	Seminar in Medical Anthropology	3
ANTH/WGST 753	Gender, Sickness, and Society	3
ENGL 593	 Internship in Health Humanities	3
ENGL 610	 Practicum in Health Humanities	3
ENGL 611	 Narrative, Literature, and Medicine: Advanced Interdisciplinary Seminar	3
ENGL 690	Special Topics	3

ENGL 695	 Research Seminar	3
ENGL 763	Introduction to Methods in Health Humanities	3
ENGL 861	Seminar in Literary and Cultural Theory	3
HPM 757	Health Reform: Political Dynamics and Policy Dilemmas	3
MEJO 560	Environmental and Science Journalism ^H	3
MEJO 561	Environmental and Science Video Storytelling	3
MEJO 562	Environmental and Science Documentary Television	3
MEJO 564	Medical and Science Reporting	3
MEJO 569	Behavioral Science in Health Communication	3
MEJO 825	Seminar in Interdisciplinary Health Communication	3
PUBH 720	HIV/AIDS Course	1
PLCY/HPM 661	Global Health Law & Policy	3
PLCY/HPM 662	Global Health and Human Rights	3
PLCY 730	Ethics and Public Policy	3
SOCI 422	 Sociology of Mental Health and Illness	3
SOCI 469	Health and Society	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.

Non-Course Certificate Requirements

Programming Participation

In addition to coursework, the Graduate Certificate in LMC requires participation in health humanities programming or events at least twice while enrolled in the certificate program. Examples of ways to fulfill this requirement include the following:

- Presenting original research at a HHIVE Lab meeting,
- Attending Health Humanities Grand Rounds,
- Mentoring an undergraduate research project in the HHIVE Lab,
- Attending and/or organizing the Literature, Medicine, and Culture Colloquium (LMCC) and/or
- Another program or event with Director approval.

Middle East Studies Certificate

Offered by the Department of Asian and Middle Eastern Studies, the Graduate Certificate in Middle East Studies trains students for interdisciplinary research in the field of Middle East studies. Drawing upon course offerings from multiple departments at UNC, the certificate allows students to develop a broad-based regional competency in conjunction with the disciplinary training provided by their home department or school. Graduate students in all departments and schools at UNC are eligible to enroll in the certificate program. The certificate requirements have four components:

1. ASIA 785 Critical Genealogies of Middle East and North Africa Studies, a foundational seminar offered once every two years .
2. Three additional courses (9 credits) related to Middle Eastern Studies. At least one of these courses must be offered by the Department of Asian and Middle Eastern Studies; the other two may be in any department (including the Department of Asian and Middle Eastern Studies). All three of these courses must be at the 700 level or above with the following exceptions:

- a. one course may be an advanced class in a Middle Eastern language (at the 300 level or above in Persian, Hebrew, or Turkish; at the 400 level or above in Arabic);
 - a. with the approval of the Director of Graduate Studies in Asian and Middle Eastern Studies, one additional course at the 400+ level may be used toward the certificate if additional work is added to the undergraduate syllabus.
3. A thesis, dissertation chapter, or equivalent research paper, on a topic in Middle East studies. Theses written for the student's primary degree requirements are welcome.
 4. Relevant language skills, international experience, or training. Language competence in a Middle Eastern language may be demonstrated by taking an advanced language class or by using primary language texts in the major research project. International experience and training should include extended research, fieldwork, or study in a Middle Eastern country.

For further details, including application information, please visit the website of the Department of Asian and Middle Eastern Studies (<https://asianstudies.unc.edu/>).

Course Requirements

Code	Title	Hours
Core Courses		
ASIA 785	Critical Genealogies of Middle East and North Africa Studies	3
Electives		
Students are required to take three total electives totaling 9 credit hours.		9
Minimum Hours		12

Non-Course Certificate Requirement

1. A thesis, dissertation chapter, or equivalent research paper, on a topic in Middle East studies. Theses written for the student's primary degree requirements are welcome.
2. Relevant language skills, international experience, or training. Language competence in a Middle Eastern language may be demonstrated by taking an advanced language class or by using primary language texts in the major research project. International experience and training should include extended research, fieldwork, or study in a Middle Eastern country.

Molecular and Cellular Biophysics Certificate

We provide our trainees with a rigorous grounding in the basic principles of molecular and thermodynamic descriptions of macromolecules through the 650 series (<https://biophysics.unc.edu/training-3/core-biophysics-modules/>) of three intense, 1-credit modules taken by all trainees. Beyond that, trainees choose from modules that teach the fundamentals of different methods for investigating the structure and function of macromolecules. These allow trainees to establish a solid theoretical and practical (some have both lab and lecture components) background in the particular areas of biophysics relevant to their individual training goals.

Research rotations performed during the first year of training provides trainees opportunities both to obtain additional practical experience and to identify potential laboratories for their thesis research.

Trainees have the opportunity to present a poster at the Carolina Biophysics Symposium (<https://cbs.web.unc.edu/>). A central goal of the symposium is to bring together North Carolina Biophysicists and the meeting is organized and sponsored by North Carolina colleges.

Finally, our training program prepares trainees to be successful in the highly collaborative atmosphere of modern bioscience. All our courses are organized into work groups in which trainees do assignments in a collaborative fashion. This encourages trainees from diverse basic disciplines (cell biology to physics) to work together and learn from each other as well as attack problems in an interdisciplinary fashion. Our seminar course not only introduces trainees to research that spans the broad range of modern biophysics, but also helps them develop the oral communication skills critical to their professional success.

Course Requirements

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 ¹	1
or BIOC 670	Structural Bioinformatics	
BIOC 704	Seminars in Biophysics	2
Scientific Communication Requirement		2
BIOC 710	Scientific Communication ²	
BIOC 716	Biophysics Colloquium ³	2
BBSP 705	Best Practices for Rigor and Reproducibility in Research	1
BCB 888	Responsible Conduct of Research ⁴	1
or BIOC 888	Responsible Conduct of Research	
Three Additional Biophysics Method Modules		
BIOC 662	Macromolecular Interactions	
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	
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	
BCB 750	MOLECULAR DYNAMICS	
PHCO 750	Proteomics Methods and Applications	
BMME 890	Special Topics	
Minimum Hours		15

¹ Not required for students matriculating before Fall 2023.

² Or similar grant writing class from another department.

³ BIOC 716 is a 0.5 credit course, which can be repeated four times for a total of 2 credits. Not required for students matriculating before Fall 2023. Students must enroll during their 2nd and 3rd year—for a total of 4 semesters.

⁴ Responsible conduct of research (1 credit): This is for senior graduate students, generally 4th year in the Spring.

Non-Course Certificate Requirement Nanobiotechnology Certificate

With financial support from the North Carolina Biotechnology Center, UNC-Chapel Hill and NC State University offer graduate certificates in nanobiotechnology. Tremendous advances in the development of nanoscale, nanostructured and nano-enabled materials for biotechnology applications are currently taking place. In particular, the development of advanced materials (e.g., electronic materials, optical materials, biologically-derived materials and nanoscale materials) will allow for the development of next-generation systems for use in medicine, homeland defense and agriculture.

These systems will provide the integration of multiple functions, miniaturization of devices, an increase in stability and a decrease in cost. In order for universities, companies and governmental agencies to pursue this highly specialized work, students must be trained at the graduate level to perform work at the interface of nanoscale science and biotechnology. The Nanobiotechnology certificates are aligned with the need for highly trained professionals to nurture the rapid growth of nanobiotechnology infrastructure in North Carolina. The keystone of the certificates at both universities is a core nanobiotechnology course (BME 540, 3 credit hours), in which lectures, open discussions and student presentations will be used to introduce students to this area of study.

Course Requirements

Code	Title	Hours
Core Courses		
BME 540 (NC State course)		3
Electives		
9 minimum credit hours of elective courses are required from the lists below.		9
Minimum Hours		12
UNC Electives		
BCB 720	Introduction to Statistical Modeling	3
BCB 724	Data Communication	1
BCB 730	Fundamentals of Quantitative Image Analysis for Light Microscopy	1
BCB 731	Critical Readings in Biomedical Statistics and Machine Learning	2
BIOC 655	Principles of Cellular and Molecular Biochemistry	3
BIOL 631	Advanced Molecular Biology	4
BIOL 632	Advanced Molecular Biology II	3
BMME 511	Genetic Engineering	3
BMME 524	Biomolecular Sensing Technologies	3
MCRO 614	Immunobiology	3
PHCO 701	Introduction to Molecular Pharmacology	3
TOXC 707	Advanced Toxicology	3

TOXC 735	Regulatory Toxicology-Interacting with regulatory agencies & approval for drug, device, and chemical	3
NC State Electives		
BEC 472		3
BEC 572		3
BEC 562		3
BEC 575		3
BIT 501		3
BIT 510		3
BME 540		3
BME 566		3
CHE 568		3
ECE 518		3
ECE 568		3
ISE 718		3
MAE 536		3
MAE 539		3
MAE 558		3
MSE 539		3
MSE 565		3
MSE 566		3
MSE 712		3
MSE 718		3
MSE 721		3
MSE 723		3

Non-Course Certificate Requirement Natural Hazards Resilience Certificate

These certificate courses train researchers and practitioners who can help the public, non-profit, and private sectors become more resilient in the face of natural hazards and disasters and adapt to the effects of a changing climate.

To apply to this certificate, students must have completed a bachelor's degree. This certificate program is hosted by the Department of City and Regional Planning, but it is designed for students from a range of academic disciplines, such as public policy, geography, climate science, and engineering.

Course Requirements

Code	Title	Hours
Core Courses		
PLAN 655	Planning for Natural Hazards and Climate Risk	3
PLAN 656	 Climate Change Impacts and Adaptation	3
PLAN 754	Natural Hazards Resilience Speaker Series	1
Electives		
3 minimum credit hours of elective courses are required from the lists below. These lists are not exclusive. With advisor or director approval, additional courses may fulfill this requirements.		3
Minimum Hours		10
Code	Title	Hours
UNC Electives		
ENVR 525	Water, Sanitation, Hygiene, and Global Health	3

ENVR 600	Environmental Health	3
ENVR 765	Space Time Exposure Mapping and Risk Assessment	3
ENVR 788	Managing Environmental Financial Risk	3
ENVR/PLAN 548	Sustainable Energy Systems	3
GEOG 804	Research Seminar in Social Geography	3
GEOG 811	Seminar/Readings in Earth System Science and Biophysical Geography	3
HPM 420	Community and Public Health Security: Disasters, Terrorism, and Emergency Management	3
HPM 422	Emergency Management I: Analytic Methods	3
PLAN 647	 Coastal Management Policy	3
PLAN 740	Land Use and Environmental Policy	3
PLAN 741	Land Use and Environmental Planning	3
PLAN 744	Development and Environmental Management	3
PLAN 745	Development Impact Assessment	3
PLAN 752	Project and Site Planning	3
PLAN/ENEC 641	Watershed Planning	3
SOWO 709	Special Topics in Human Behavior and Social Environment	1-6
Duke Electives ¹		
ECS 550		3
ECS 570		3
ENV 550		3
ENVIRON 775		3
LAW 298		3
NC State Elective ¹		
LAR 535		3

¹ Please note that Duke and NC State courses will have to be transferred to UNC.

Non-Course Certificate Requirements Nonprofit Leadership Certificate

The Graduate Certificate in Nonprofit Leadership is designed to complement existing degree programs within the School of Social Work, School of Government, School of Information and Library Science, and the College of Arts and Sciences (specifically Public Policy). While there may be some overlap in coursework, the certificate provides specialized, nonprofit-focused content that enhances the academic and professional preparation of students. Course credit transfer policies will be applied to ensure that students can efficiently integrate the certificate into their degree programs. Additionally, students will be encouraged to pursue elective courses focused on nonprofits across various disciplines, allowing them to tailor their learning experience and further develop specific knowledge and skills that align with their personal and professional interests.

Course Requirements

Code	Title	Hours
Core Courses		
SOWO 883	Marketing and Fundraising for Nonprofit Organizations	3
SOWO 884	Leadership in Nonprofit Organizations	3

or PUBA 756	Nonprofit Management	
SOWO 885	Financial Management of Nonprofit Organizations	3

Electives

3 minimum credit hours of elective courses are required from the list below.

Minimum Hours 12

Code	Title	Hours
Electives		
INLS 685	Project Management: Strategy and Applications	3
INLS 690	Intermediate Selected Topics (INLS 690.324)	1-3
PLCY 799	Selected Topics in Public Policy	3
PLCY 725	Politics, Advocacy and Public Policy	3
PLCY/HBEH 748	Design Thinking for the Public Good	3
PUBA 758	Navigating Nonprofit Local Government	3
PUBA 763	Grant Writing and Evaluation	1.5
PUBA 730	Governmental and Not-for-Profit Accounting and Reporting	3
PUBA 771	Managing Economic Development	3
PUBA 780	Special Topics in Public Administration	1-3
SOWO 570	Social Work Practice with Organizations and Communities	3
SOWO 874	Administrative and Management: Theory and Practice	3
SOWO 875	Interorganizational and Community-Level Theory and Practice	3
SOWO 745	Facilitation Skills Within the Organizational and Community Context	1.5
SOWO 744	Community Organizing	1.5
SOWO 730	Social Work and the Law	3
SOWO 792	Program Development and Proposal Preparation	1.5
SOWO 793	Asset Development Practice	1.5
SOWO 881	Development Theory and Practice in Global Settings	3

Non-Course Certificate Requirements

- Capstone Project for the Graduate Certificate in Nonprofit Leadership

Students in the Graduate Certificate in Nonprofit Leadership will complete a Capstone Project that demonstrates the integration and application of knowledge gained throughout the program. This project must be completed within one of the certificate's core or elective courses and is designed to offer students a flexible yet rigorous opportunity to engage in applied nonprofit leadership work while earning course credit.

Orofacial Pain Certificate

The orofacial pain program is a two-year program. Upon completion of the program, students would be eligible for examination and certification by the American Board of Orofacial Pain. This program will follow the standards required by the Commission on Dental Accreditation (CODA).

The education in the program is required to be beyond the level of predoctoral dental education in oral health care, using applied basic and behavioral sciences to treat patients with orofacial pain. Program activities will include didactic curriculum, journal club,

case conferences, research, clinical activity, and clinical rotations. Half of the program time will be dedicated to the clinical diagnosis and management of orofacial pain.

The didactic curriculum will encompass biomedical sciences, functional neuroanatomy and neurophysiology of pain, behavioral sciences, clinical sciences, multidisciplinary pain management, teaching, and research.

The goal of the Orofacial Pain program is to prepare its graduates to plan and provide interdisciplinary/multidisciplinary health care for a wide variety of patients with orofacial pain as well as to provide education in orofacial pain related to the basic mechanisms and the anatomic, physiologic, neurologic, vascular, behavioral, and psychosocial aspects of orofacial pain. In addition, graduates are expected to be able to evaluate current therapeutic modalities, and to develop new and improve upon existing procedures for diagnosis and treatment/management of such conditions/diseases/syndromes.

Course Requirements

Code	Title	Hours
Core Courses		
DENG 707	Regional Anatomy	2
DENG 720	Applied Pharmacology	1
OFP 700 ¹		4
DENG 701	Introduction to Research Design	1
OCBM 724	Diagnosis and Treatment of Orofacial Pain Conditions	1
DENG 901	Research ²	4
OFP 710 ³		5
OFP 720 ⁴		4
OFP 730 ⁵		8
ORAD 706	Advanced Oral Radiology	2
OCBM 723	Introductory Pain Neurobiology	1
OFP 750 ⁶		12
ORPA 762	Oral and Maxillofacial Pathology Seminar	2
DENG 702	Biostatistics	2
Minimum Hours		49

¹ This two-credit course should be taken twice for a total of 4 credits.

² This one-credit course should be taken four times for a total of 4 credits.

³ This one-credit course should be taken five times for a total of 5 credits.

⁴ This one-credit course should be taken four times for a total of 4 credits.

⁵ This two-credit course should be taken four times for a total of 8 credits.

⁶ This three-credit course should be taken four times for a total of 12 credits.

Non-Course Certificate Requirements

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

Public Health Informatics Certificate

Public Health Informatics is an emergent area that has been defined as the systematic application of information and computer science and technology to public health practice and research. Public Health Informatics is distinguished from other healthcare informatics specialties in its focus on population/community health, prevention orientation and the role of government agencies in public health practice.

The Graduate Certificate in Public Health Informatics (PHI) program is offered by the Gillings School of Global Public Health (SPH) as an 11-credit hour specialized educational option to prepare graduates for a variety of public health informatician roles.

Combining the existing strength of the SPH curriculum and the informatics curriculum at the School of Information and Library Science (SILS), it will offer focused education with emphasis on public health information systems, information management and manipulation as well as evidence-based public health policy.

The PHI certificate is envisioned as either complementary to a graduate degree from SPH, SILS, and other UNC programs or as post-Baccalaureate advanced specialization training for members of the current public health workforce.

Interested students should contact Bill Gentry, PHI certificate administrator, at wgentry@email.unc.edu.

Course Requirements

Code	Title	Hours
Core Courses		
INLS 582	Systems Analysis	3
HPM 893	Public Health Informatics Practicum	2
Students are required to take one of the following courses:		
BIOS 669	Working with Data in a Public Health Research Setting	3
or HPM 760	Healthcare Quality and Information Management	
or INLS 523	Introduction to Database Concepts and Applications	
Electives		
3 minimum credit hours of elective courses are required from the list below. ²		3
Minimum Hours		11

¹ Students will be required to pick or include a PHI-related work arrangement for their certificate practicum.

Code	Title	Hours
Electives		
Choose one from the list below: ²		
BIOS 664	Sample Survey Methodology	4
BIOS 668	Design of Public Health Studies	3
BIOS 669	Working with Data in a Public Health Research Setting ³	3
ENVR 468	Temporal GIS and Space/Time Geostatistics for the Environment and Public Health	3
EPID 750	Fundamentals of Public Health Surveillance	3
EPID 766	Epidemiologic Research with Healthcare Databases	3
HPM 620	Implementing Health Informatics Initiatives for Emerging Leaders	3
HPM 760	Healthcare Quality and Information Management ³	3
PUBH 784	Project Management Strategy and Application	3
INLS 523	Introduction to Database Concepts and Applications ^{3, 4}	3
INLS 767	Information Assurance	3
INLS 718	User Interface Design ⁵	3
CHIP 725	Electronic Health Records	3

¹ At least 6 of the 11 credit hours must be from School of Public Health courses.

² If not taken to satisfy the data management core course requirement.

³ INLS 161 as a prerequisite or test.

⁴ INLS 582 as a prerequisite.

Non-Course Certificate Requirements

Public Health Leadership Certificate

As the challenges faced in public health continue to grow and become more varied, the skills of practitioners must also be broadened. The traditional technical skills that are critical to performing the core functions must now be expanded to include greater management and, most important, leadership skills. Especially in recent years, it has

become clear that the new challenges faced in public health can be very severe in nature and cannot be predicted.

The Public Health Leadership Program offers an Online Certificate in Public Health Leadership for degree (excluding Gillings MPH students) and non-degree-seeking students. The Online Public Health Leadership Certificate is a 9-credit hour program of study.

Course Requirements

Code	Title	Hours
Core Courses		
PUBH 747	Project Management Principles and Practices	3
PUBH 791	Core Principles in Public Health Leadership	3
Choose one of the following:		
PUBH 730	Leading Continuous Quality Improvement (CQI) in Public Health Locally And Globally	3
or PUBH 731	Public Health Social Marketing	
Minimum Hours		9

Non-Course Certificate Requirement Qualitative Studies Certificate

The Graduate Certificate in Qualitative Studies (GCQS) is for any graduate student interested in conducting methodologically sound, rigorous, evidence-based qualitative research. You will learn a variety of techniques from faculty members across campus and be able to tailor the focus of your studies towards your research and career goals.

Course Requirements

Code	Title	Hours
Core Courses		
EDUC 830	Qualitative Research Methods I: Philosophical Foundations of Qualitative Research	3
EDUC 868	Qualitative Research II: Data Collection	3
EDUC 869	Qualitative Research III: Data Analysis	3
Electives		
A total of 6 credit hours are required. Choose from the electives list below. ¹		6
Minimum Hours		15

¹ For any courses not listed below, please contact your program director to request approval.

Code	Title	Hours
Pre-Approved Electives		
EDUC 878	Seminar in Educational Studies ²	3
EDUC 883	Case Study Methods	3
EDUC 905	Leading Organizations to Equitable Practice	3
EDUC 922	Mixed Methods Research	3
EDUC 977	Autoethnography Educational Research	3
AAAD 790	Black Feminist Ethnography	3
ANTH 808	Researching and Writing Lives	3
ANTH 809	Ethnographic Methods	3
ANTH 860	Art of Ethnography	3
ANTH 897	Seminar in Selected Topics (Ethnographic Research Design)	3

ANTH 898	Seminar in Selected Topics	1-4
COMM 841	Performance Ethnography	3
FOLK 841	Performance Ethnography	3
HBEH 754	Advanced Qualitative Research Methods in Health Behavior and Health Research	3
NURS 979	Qualitative Analysis	3
PUBH 724	Migration and Health	2
SOCI 720	Participant Observation and In-Depth Interviewing	3

² Please note that this is a special topics course and is approved for certificate requirement completion when the course topic is qualitative research topics.

Non-Course Certificate Requirements

- QuaLab Culminative Activity Requirements

In addition to completing course work, students are required to participate in at least one of the following culminating activities to complete all requirements for the Certificate. Culminating activities are sponsored by the Interpretive Research Suite and Carter Qualitative Thought Lab (QuaLab). Culminative activity options include:

- a research-oriented activity related to the I-SEEC Change project (Innovative Studies for Engaging Educational Community Change), the overarching signature research project of the QuaLab;
- a teaching-oriented activity during which students would develop mastery of specific software and then teach that software in workshops, within courses and/or to small groups;
- a service-oriented activity where students would contribute to the online repository of teaching ideas, practices, units, exercises, etc. of qualitative research methods maintained by the QuaLab;
- and a methodology-oriented workshop, which will offer both theoretical and applied elements to support others' understanding of a particular approach to qualitative research. The workshop will be recorded and offered as a resource to the graduate certificate's qualitative community.

Students will also have the opportunity to attend any guest lectures, workshops, and discussion groups facilitated by the QuaLab (attendance is not required, but highly encouraged).

Religious Studies Certificate

Carolina's Certificate in Religious Studies is available to degree-seeking graduate students studying in the humanities, social sciences, and sciences at Carolina. This interdisciplinary certificate is designed to provide students studying topics in religion in diverse fields the opportunity to examine and discover the various methodologies that different disciplines contribute to the study of religion, i.e., to broaden their awareness of methodologies and to hone their critique.

Course Requirements

Code	Title	Hours
Core Courses		
RELI 700	Theory and Method in the Study of Religion	3
Two other courses from the following list:		6
AAAD 701	CULTURES OF COLONIALISM IN THE AFRICANA WORLD	
AAAD 702	Muslim African Cosmopolitanism	
AAAD 735	Black Southerners	
AAAD 740	Womanist/Black Feminist Thought	
ANTH 426	Making Magic	
ANTH 432	 Science and Society in the Middle East	
ANTH 464	Life and Violence	
ANTH 688	Observation and Interpretation of Religious Action	
ANTH 765	Seminar in the Anthropology of Law	
ANTH 770	Seminar on Anthropological Perspectives on Latin America	
ARTH 450	The City as Monument ^H	
ARTH 454	Cathedrals, Abbeys, Castles: Gothic Art and Architecture, ca.1130-1500	
ARTH 466	History of the Illuminated Book	
ARTH 469	 Art of the Aztec Empire	
ARTH 471	Northern European Art of the 14th and 15th Centuries	
ARTH 482	 Art and Archaeology of Achaemenid Persia	
ARTH 488	 Contemporary African Art	
CLAR 474	 Roman Sculpture	
CLAR 476	 Roman Painting	
CLAR 812	Diaspora Judaism	
GREK 409	Greek New Testament	
LATN 730	Readings in Medieval Latin Literature	
CMPL 866	Melancholia	
CMPL 890	Special Topics in Comparative Literature	
ENGL 821	Seminar in Middle English Literature	
ENGL 844	Seminar in American Literature, 1860-1900	
ENGL 827	Studies in Renaissance Authors	
ENGL 830	Studies in Renaissance Literature: Primarily Nondramatic	
AMST 510	 Federal Indian Law and Policy	
AMST 511	 American Indians and American Law	
FOLK 424	 Ritual, Festival, and Public Culture	
FOLK 472	 Traditions in Transition: Jewish Folklore and Ethnography	
FOLK 481	 Jewish Belonging/s: The Material Culture of Jewish Experience	
FREN 452	Muslim Women in France and the United States	
FREN 784	Philosophers of the Enlightenment	
JWST 425	 Beyond Hostilities: Israeli-Palestinian Exchanges and Partnerships in Film, Literature, and Music	

JWST 436	 Language, Exile, and Homeland in Zionist Thought and Practice
JWST 462	 The Arab-Jews: Culture, Community, and Coexistence
JWST 486	 The Jewish South: Race, Region, and Religion
JWST 556	 Language Remains: Exploring the German-Jewish Dialogue
JWST 697	Capstone Course: Themes and Methodologies in Jewish Studies
SPAN 625	Indigenous Literatures and Cultures of the Américas
SPAN 640	Topics in Hispanic Jewish Studies
SPAN 834	Seminar in Peninsular Spanish Literature and Culture
RELI 416	 The Cult of Saints: Narratives, Materialities, Practices ^H
RELI 420	 Post-Holocaust Ethics and Theology ^H
RELI 421	 Religion and Science
RELI 428	Religion and Anthropology ^H
RELI 441	 Religion in Early America ^H
RELI 448	 Native and Christian: Indigenous Engagements with Christianity
RELI 452	 Documenting Religion
RELI 486	 Islam and Feminism/Islamic Feminism
RELI 501	 The History of the Bible in Modern Study
RELI 502	 Myths and Epics of the Ancient Near East ^H
RELI 503	 Exploring the Dead Sea Scrolls ^H
RELI 515	 Cultural Histories of the New Testament ^H
RELI 524	Ethnographic Approaches to Contemporary Religion
RELI 533	 Women, Gender, and Judaism
RELI 541	 Evangelicalism from a Global Perspective ^H
RELI 564	 Religion, Race, and Inquisition in the Spanish Empire
RELI 581	 Sufism
RELI 584	 The Qur'an as Literature
RELI 587	 Islam and Sexual Diversity
RELI 592	Religious Conflict and Literature in India
RELI 603	 The Bible and the History of the Self
RELI 712	Early Jewish History and Literature
RELI 720	Critical and Comparative Lineages in Religion and Culture
RELI 721	Theories of Religion and Culture
RELI 724	Ethnographic Research Methods: Ethnography of Religion and Religious Formations
RELI 740	Approaches to the Study of Religion in the Americas
RELI 744	Religion in Colonial Americas
RELI 745	Religion in Postcolonial Americas

RELI 780	Approaches to Islamic Studies	
RELI 821	Seminar in Religion and Culture	
RELI 824	Body, Materiality, History	
ARAB 432	 Science and Society in the Middle East	
ASIA 425	 Beyond Hostilities: Israeli-Palestinian Exchanges and Partnerships in Film, Literature, and Music	
ASIA 431	 Persian Sufi Literature	
ASIA 522	 Beauty and Power in the Classical Indian World	
ASIA 771	Performance in South Asia: Contexts and Theories	
ASIA 780	Minorities in the Middle East	
CHIN 475	 Confucianism: Origin, History, and Contemporary Relevance	
CHIN 476	 Daoism: Origin, History, and Contemporary Relevance	
CLAR 464	 Greek Architecture	
CLAR 480	 Egypt after the Pharaohs	
CLAR 482	 Art and Archaeology of Achaemenid Persia	
CLAR 492	 Archaeology of Greek Sanctuaries	
CLAR 512	 Ancient Synagogues	
CLAR 781	The Archaeology of the Bronze Age Aegean	
CLAR 782	The Archaeology of Early Iron Age Greece and the Aegean	
FREN 452	Muslim Women in France and the United States	
GEOG 424	 Geographies of Religion	
GEOG 448	Transnational Geographies of Muslim Societies	
GEOG 459	 Law, Indigenous Knowledge Systems and Environmental Activism in Latin America	
GREK 775	Later Greek Prose	
HIST 431	The Medieval Church	
HIST 511H	9/11 in World History	
ITAL 731	Infernal Vernaculars	
Minimum Hours		9

^H Honors version available. An honors course fulfills the same requirements as the nonhonors version of that course. Enrollment and GPA restrictions may apply.

Non-Course Certificate Requirements

- Participation & Contribution to the Department - at least two events
 - Examples of how a certificate student can participate and contribute to the department:
 - attend an event in the RELI McLester lecture series,
 - attend a departmental reading group such as the Carolina Seminar in Theory and Religion or Christianity in Antiquity,
 - attend a RELI-sponsored event,
 - participate in a presentation of original research, such as a McLester panel on departmental research or in tandem the undergraduate honors thesis presentations, or
 - attend another program or event with Director approval.

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. The nine-credit hour certificate consists of four required courses and a minimum of three (3.0) credit hours of rural health-focused electives.

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		
Minimum of 3 credit hours of rural health-focused electives		3
Minimum Hours		9

Code	Title	Hours
Electives		
PHCY 700	SHAC: Community Outreach and Service Learning	0
PHCY 800	Geriatric Pharmacy Practice	3
PHCY 808	Critical Care	3
PHCY 811	Infectious Diseases	1.5
PHCY 812	Pediatric Pharmacotherapy	1.5
PHCY 813	Clinical Toxicology	1.5
PHCY 814	Disaster Preparedness and Emergency Care	1.5
PHCY 818I	Interprofessional Perspectives Diabetes Mellitus Management	2
PHCY 822	Hematology/Oncology Pharmacotherapy	3
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	1.5
PHCY 840	Health Policy and Managed Care	3
PHCY 846	Perspectives in Mental Health	2

Non-Course Certificate 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
	Community Service
Spring PY2	Continuity Site Mentoring
	Community Service
Fall PY3	Continuity Site Mentoring
	Community Service
Spring PY3	Continuity Site Mentoring
	Community Service
PY4 year	Research project completion and presentation

Russian, Eurasian, and East European Studies Certificate

UNC-CH students working toward a graduate degree (not counting the REEES Concentration in the Global Studies MA Program) can earn a Graduate Certificate in Russian, Eurasian, and East European Studies, thereby documenting their specialization in the region.

Consult with Associate Director Adnan Džumhur, (dzumhur@email.unc.edu) to design a plan for completion of requirements.

Course Requirements

Code	Title	Hours
Minimum Hours		12

Non-Course Certificate Requirements

Strategic Innovation and Entrepreneurship Certificate

The best business minds often do not possess the skill set one needs to turn an innovative idea into a successful, sustainable business.

The Strategic Innovation and Entrepreneurship Certificate helps students develop the visionary, technical, and strategic skills they need to build, promote, and lead businesses in any industry.

This certificate is ideal for working professionals at all levels who want to learn how to start or grow a business.

Whether they seek to start their own business or expand an existing startup, students in the certificate program have the flexibility to work full-time while gaining valuable entrepreneurship experience.

Admissions Requirements

To be admitted into the program, you must hold a bachelor's degree from an accredited college or university and have at least two years of professional experience. While we value advanced degrees as part of an application, they are not a substitute for work experience.

Curriculum

Students who enroll in this online strategic innovation and entrepreneurship certificate program will learn how to apply core principles to their own business plans, including new venture discovery and corporate strategy for entrepreneurs and sales.

They will also learn how to identify potentially lucrative and financially viable enterprise opportunities, refine and develop their strategies to secure venture capital funding and other sources of capital, and expand their initial business vision over time.

Course Requirements

Code	Title	Hours
Core Courses		
MBA 800	Business Strategy	2
MBA 829	Strategy in High Velocity Markets	2
Electives		
A total of 8 credit hours of electives are required. Please choose from the electives list below.		8
Minimum Hours		12

Code	Title	Hours
Electives		
MBA 720	Technology Strategy & Business Innovation	2
MBA 721A	Managing Innovation	2
MBA 805A	Corporate Strategy	2
MBA 835	Introduction to Entrepreneurship	2
MBA 842	New Ventures Discovery	2
MBA 847	Sales	2

Non-Course Certificate Requirements

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 Sampling³**Electives**

One elective semester course of choice that focuses on survey science, research methodology, or data science. Choose from electives list below.

Minimum Hours 12

¹ Every Spring.

² Every Fall.

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 581	 Research Design for Public Policy ^H	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

^H Honors version available. An honors course fulfills the same requirements as the nonhonors version of that course. Enrollment and GPA restrictions may apply.

Non-Course Certificate 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 Certificate 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.

Women's and Gender Studies Certificate

The Department of Women's and Gender Studies is pleased to offer a Graduate Certificate in Women's and Gender Studies. This interdisciplinary certificate is designed to meet the needs and interests of students across the university, including those enrolled in Ph.D., MA, and professional programs. The certificate is also open to members of the

North Carolina public interested in this course of study (undergraduate degree completion required).

Course Requirements

Code	Title	Hours
Core Courses		
WGST 790	Graduate Seminar in Women’s Studies	3
Electives		
A total of 6 credit hours of electives are required. Please choose from the electives list below.		6
Minimum Hours		9
Code	Title	Hours
Electives		
BUSI 527	Gender at Work	1.5
GEOG 435	 Global Environmental Justice	3
GEOG 804	Research Seminar in Social Geography	3
ITAL 830	Seminar	3
PUBH 711	Critical Issues in Global Health	3
PUBH 712	Global Health Ethics	3
SOCI 411	People, Power, and Politics	3
SOCI 412	Social Stratification	3
SOCI 420	Political Sociology	3
SOCI 427	 The Labor Force	3
WGST 553	 Theorizing Black Feminisms	3
WGST/ENGL 666	 Queer Latina/o Photography and Literature	3

Non-Course Certificate Requirement

- Participation & contribution to the Department:

Examples of how students can “participate and contribute” to the Department include events and teaching. For example, students can attend a WGST-sponsored event, participate in a presentation of original research, or TA-ing for WGST 101.

Women’s Health Research Certificate

The Graduate Certificate in Women’s Health Research (WHR) provides trainees with a formal program of courses and seminars to develop specialized research training in the field of women’s health. Trainees within this program have access to an interdisciplinary education as well as collaborations with medical students in the Women’s Health Scholarly Concentration Program to promote future partnerships between emerging clinical scientists and research scientists in this field. Graduate students who complete this certificate will gain:

- Fundamental knowledge of women’s health and the drivers behind sex-associated pathologies
- A strong understanding of current research and critical knowledge gaps within the field of women’s health and sex-associated pathologies
- Specialization of the research skills necessary to pursue advanced research questions within this field of study
- Mentoring and academic support from faculty advisors/directors
- Networking opportunities with clinical, translational, and basic researchers and trainees within this field of study at UNC and beyond

- Opportunities to refine scientific communication and presentation skills through presenting work at research symposiums
- Interdisciplinary collaborations with medical students in the School of Medicine’s Women’s Health Scholarly Concentration Program to enhance interprofessional education opportunities
- Expansion of research opportunities and peer-peer/mentor-mentee collaborations across UNC
- Exposure to the vast array of career opportunities in women’s health and career development support.

Faculty Advisory Board

- Russell Broadbuss, MD, PhD – Chair of Pathology and Laboratory Medicine Department
- Melinda Yates, PhD – Associate Professor, Pathology and Laboratory Medicine; Faculty Advisor, Women’s Health Multidisciplinary Consortium
- Seema Agrawal, Ed.D. – Teaching Associate Professor, Department of Nutrition; Faculty Advisor, Women’s Health Research Certificate

Course Requirements

Code	Title	Hours
Core Courses		
BIOL 523	Sex Differences in Human Disease	3
Electives		
Students will take a total of 6 credit hours of electives that reflect the transdisciplinary nature of factors influencing women’s health research. Students will propose their planned course of study to be reviewed and approved by the director and faculty advisors following admission.		6
Minimum Hours		9
Code	Title	Hours
Electives		
BIOL 405	Good Genes: Human Reproduction in the Social Context	3
BIOL 408H	Embryology to Biomedical Frontiers	3
BIOL 429	Human Genetic Diversity	3
BIOL 440	Stem Cell Biology	3
BIOL 441	Vertebrate Embryology	3
NUTR 611	Food And Your Life Stages	3
PATH 770	Mouse Efficacy and Disease Models	3
WGST 790	Graduate Seminar in Women’s Studies	3
WGST 890	Topics in Women’s Studies	3
MHCH 610	Issues in Maternal and Child Health	3
MHCH 625	Injury as a Public Health Problem	3
MHCH 680	Global Sexual and Reproductive Health	1
SOCI 823	Integrating Social and Biological Perspectives on Human Health	3
SOCI 826	Health and Developmental Trajectories From Adolescence into Adulthood	3
SOCI 833	Socioeconomic Factors in Fertility	3
SOCI 851	Sociology of Gender	3
SOCI 863	Sociology of Health, Illness, and Healing	3
SOCI 950	Seminar in Selected Topics	3
Minimum Hours		6

Non-Course Certificate Requirements

- Present at a research symposium prior to graduation.
- Participate in monthly cohort meetings (Monthly cohort meetings will rotate between guest seminar speakers, research in progress talks, and professional development topics).
- Engage in the WHMC monthly Journal Club.

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.

Courses

Numbered 400-999:

- African, African-American, and Diaspora Studies (AAAD) (<https://catalog.unc.edu/courses/aaad/>)
- Chichewa (CHWA) (<https://catalog.unc.edu/courses/chwa/>)
- Lingala Language (LGLA) (<https://catalog.unc.edu/courses/l gla/>)
- Kiswahili (SWAH) (<https://catalog.unc.edu/courses/swah/>)
- Wolof Language (WOLO) (<https://catalog.unc.edu/courses/wolo/>)
- Yoruba Language (YORU) (<https://catalog.unc.edu/courses/yoru/>)

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.

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

LeRhonda Manigault-Bryan

Eunice Sahle

Associate Professors

Maya Berry

Lydia Boyd

Brandi Brimmer

David Pier

Charlene Regester

Assistant Professors

Shakirah Hudani

Kevin Irakoze

Nadia Mosquera Muriel

Petal Samuel

Teaching Associate Professors

Samba Camara

Joseph Jordan

Alicia Monroe

Mohamed Mwamzandi

Robert Porter

Teaching Assistant Professors

Victor Alabi

Raphael Biry

Adjunct Faculty

Fenaba Addo, Associate Professor, Public Policy

Anna Agbe-Davies, Associate Professor, Anthropology

Renée Alexander Craft, Professor, Communication

Shorna Allred, Distinguished Professor, Geography & Environment

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

Contact Information

Department of African, African-American, and Diaspora Studies
Visit Program Website (<https://aaad.unc.edu/>)

Department Chair

Claude Clegg
cclegg@email.unc.edu

Director of Graduate Studies

Brandi Brimmer
bbrimmer@unc.edu

Student Services Specialist

Velvet Catoe
vcatoe@unc.edu

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.

Courses

Numbered 400-999:

- American Studies (AMST) (<https://catalog.unc.edu/courses/amst/>)
- Folklore (FOLK) (<https://catalog.unc.edu/courses/folk/>)

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 901—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

Amanda Cobb, 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

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 Anthropology¹

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

Assistant Professors

Kelly Alexander, Food Studies, Ethnographic Methods, Documentary Studies, Sensory Studies

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 South¹

Heidi Kim (English and Comparative Literature), Director, Asian American Center

Jocelyn Neal (Music), 20th-Century Music Theory, Popular Music¹

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

Patricia Sawin, Narrative, Discourse, Festival, Culture of Adoption

Rachel Willis, Global American Studies, Transportation Planning, Labor Economics, Education

Contact Information

Department of American Studies

Visit Program Website (<https://americanstudies.unc.edu/>)

Director of Graduate Studies

Seth Kotch

sethkotch@unc.edu

Chair

Amanda Cobb

acg@unc.edu

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/>).

Courses

Numbered 400-999:

- Anthropology (ANTH) (<https://catalog.unc.edu/courses/anth/>)

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

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

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

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

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

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

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

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

Matthew Velasco (43), Bioarchaeology, Mortuary Practice, Paleopathology, Diet and Foodways, Embodiment, Ethnogenesis, Personhood, Social Inequality, Andes, South America

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

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

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
Vincas P. Steponaitis (2), Archaeology, Political Economy, Chiefdoms, Quantitative Methods, Southeastern United States

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

Contact Information

Department of Anthropology

Visit Program Website (<http://anthropology.unc.edu>)

Chair

Amanda Logan Thompson
althomps@email.unc.edu

Director of Graduate Studies

Townsend Middleton
ctm22@email.unc.edu

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) the graduate program coordinator.

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.

Courses

Numbered 400-999:

- Applied Sciences (APPL) (<https://catalog.unc.edu/courses/appl/>)
- Material Science (MTSC) (<https://catalog.unc.edu/courses/mtsc/>)

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

By the end of the first year, students must complete a literature review, which includes both a written document and an oral presentation. The literature review is intended to prepare students and their advisors for the student's specific research focus, the oral defense scheduled for the end of the second year, and future scholarly 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

René Lopez (Physics and Astronomy), Optical Materials, Photonic Structures, Photovoltaics

Richard Superfine, Biological Physics, Soft Matter, Biomedical Device Technologies

Associate Professors

Ronit Freeman, Biomaterials, Supramolecular Polymers, Soft Matter, Synthetic Biology, Biosensors, Living Materials

Daphne Klotz, Computational Soft and Active Matter

Nico Pégard, 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

Youhong (Nancy) Guo, Materials Science and Engineering, Separation Processes, Renewable Energy Harvesting and Utilization, Advanced Manufacturing

Lin Ma, Energy Storage, Rechargeable Batteries, Advanced Manufacturing, Mixed Ion-Electron Conductors Materials, Electrochemistry, and Thermal Characterizations

Teaching 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

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

Contact Information

Department of Applied Physical Sciences

Visit Program Website (<http://aps.unc.edu>)

Chair

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Director of Graduate Studies

Ronit Freeman

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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.

Courses

Numbered 700-999:

- Applied Professional Studies (GRAD) (<https://catalog.unc.edu/courses/grad/>)

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 or more 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	Project Management: Frameworks, Principles and Techniques	
GRAD 714	Introduction to Financial Accounting	
GRAD 715	Professional Communication	
GRAD 717	Introduction to Entrepreneurship and The Entrepreneurial Mindset	
GRAD 725	Build Your Professional Brand	
GRAD 726	Executive Perspective: Business Fundamentals	
GRAD 727	Team Collaboration	
GRAD 751	Consulting Fundamentals For Adv. Professional Degree Graduate Students	
GRAD 755	Fundamentals of Technology Commercialization	
GRAD 756	Research to Revenue - University Startups	
GRAD 758	Managing People and Professional Relationships	
GRAD 760	AI in the Workplace	
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. 26) for more information.

- Master's Committee
- Master's Oral Exam / Approved Substitute
- Thesis Substitute
- Residence Credit
- Exit Survey
- Master's Prospectus Meeting

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/degrees/ma-art-history/>) for specific instructions.

For more information, contact the director of graduate studies for studio art (<https://art.unc.edu/about/department-contacts/>).

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/degrees/ma-art-history/>) 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.

Courses

Numbered 400-999:

- Art History (ARTH) (<https://catalog.unc.edu/courses/arth/>)
- Studio Art (ARTS) (<https://catalog.unc.edu/courses/arts/>)

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.

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.

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/about/department-contacts/>).

Professors

Christoph Brachmann, European Art, 1400–1700
S. Elizabeth Grabowski, Printmaking, Painting, Drawing
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

Sholeh Asgary, Performance and New Media

Sherrill Roland, Sculpture

Andrew Turner, Mesoamerican art

Martín Wannam, Photography

Meng Zhao, Asian Art

Teaching Assistant Professor

Jennifer J. Bauer, Modern Art

Adrian Martinez Chavez, Photography

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

Contact Information

Department of Art

Visit Program Website (<http://art.unc.edu>)

Chair

Annette Lawrence

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Director of Graduate Studies for Studio Art

Hong-An Truong

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Director of Graduate Studies for Art History

Carol Magee

cmagee@email.unc.edu

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.

Courses

Numbered 400-999:

- Asian Studies (ASIA) (<https://catalog.unc.edu/courses/asia/>)
- Arab World (in English) and Arabic (ARAB) (<https://catalog.unc.edu/courses/arab/>)
- China (in English) and Chinese (CHIN) (<https://catalog.unc.edu/courses/chin/>)
- South Asia (in English) and Hindi-Urdu (HNUR) (<https://catalog.unc.edu/courses/hnur/>)
- Japan (in English) and Japanese (JAPN) (<https://catalog.unc.edu/courses/japn/>)
- Korea (in English) and Korean (KOR) (<https://catalog.unc.edu/courses/kor/>)

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 Yaquub

Associate Professors

Uffe Bergeton
Li-ling Hsiao
Ji-Yeon Jo

I Jonathan Kief
Yaron Shemer
Afroz Taj

Assistant Professors

Kyoungjin Bae
Keren He
Yurika Tamura
Ana Vinea

Teaching Professors

Shahla Adel
Yuki Aratake
Doria Elkerdany
Yi Zhou

Teaching Associate Professors

Dongsoo Bang
Luoyi Cai
John Caldwell
Dwayne Dixon
Yuko Kato
Bud Kauffman
Eunji Lee
Lini Ge Polin
Katsu Sawamura
Hanna Sprintzik

Teaching Assistant Professors

Na Fan
Fumi Iwashita
Shuishui Long
Huy Phung
Caroline Sibley

Affiliated Faculty

Barbara Ambros (Religious Studies)
Benjamin Arbuckle (Anthropology)
Cemil Aydin (History)
Inger Brodey (English and Comparative Literature)
Becky Butler (Linguistics)
Yong Cai (Sociology)
Jocelyn Chua (Anthropology)
Peter A. Coclanis (History)
Barbara Entwisle (Sociology)
Michael Figueroa (Music)
Kevin Fogg (International Program for Scholarship, Innovation, Training, and Education)
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

Contact Information

Department of Asian and Middle Eastern Studies
Visit Program Website (<https://asianstudies.unc.edu/>)
New West 113, CB# 3267 UNC-Chapel Hill
919-962-4294

Chair

Li-ling Hsiao
hsiaoLL@email.unc.edu

Associate Chair & Director of Graduate Studies

I Jonathan Kief
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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.

Courses

Numbered 600-999:

- Biochemistry (BIOC) (<https://catalog.unc.edu/courses/bioc/>)

IMPORTANT: Not all courses are offered every year. Students should check with the Director of Graduate Studies Wolfgang Bergmeier (bergmeie@email.unc.edu) or the student services administrator before they register for classes.

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 ³	1
or BIOC 888	Responsible Conduct of Research	
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 655	Principles of Cellular and Molecular Biochemistry	
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 the list below or any graduate-level course in a discipline supportive of biomedical research training, excluding the Biochemistry track and Departmental core courses.		
BIOC 662	Macromolecular Interactions	1
BIOC 663A	Macromolecular NMR	1
BIOC 663B	Macromolecular NMR Practice	1
BIOC 665	Advanced NMR Spectroscopy Course	1
BIOC 666	X Ray Crystallography of Macromolecules	1
BIOC 667	Macromolecular Crystallographic Methods	2
BIOC 669	Macromolecular Crystallographic Methods II	1

BIOC 670	Structural Bioinformatics	1
BIOC 673	Proteomics, Protein Identification and Characterization by Mass Spectrometry	1
BIOC 675	Fundamentals of Cryo-Electron Microscopy	1
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 (3 credits) and BIOC 715 (1 credit) is equivalent to taking BIOC 710 twice.

² Students must take BIOC 994 twice for a minimum of 6 credit hours.

³ Students can take GNET 888 or BIOC 888.

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	Special Topics in Biomedical Engineering or BMME 891 Special Topics	
Electives		3
Choose from the list below or 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.		
BIOC 631	Advanced Molecular Biology	4
BIOC 655	Principles of Cellular and Molecular Biochemistry	3
BIOC 706	Biochemistry of Human Disease	3
BIOC 740	Contemporary Topics in Cell Signaling: Phosphorylation Control	1
BIOC 741	Contemporary Topics in Cell Signaling: GTPases	1
BIOC 742	Contemporary Topics in Cell Signaling: Cell Cycle Control	1

BIOC 744	Topics on Stem Cells and Development	2
BIOC 745	Intercellular Signaling in Development and Disease	1
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. 26) 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)

Professors

Wolfgang Bergmeier, Adhesion Mechanisms of Platelets and Neutrophils

Brian Button, Mucus Biophysical Properties, Role of the Periciliary Layer (PCL), and Mechanisms of Mucociliary Clearance in the Airways

Sharon Campbell, Structural Biology of Regulator Molecules in Cell Growth Control and Cell Adhesion

Charles W. Carter Jr., Protein Crystallography, Structural Polymorphism and Function

Xian Chen, Systems Cancer Biology and Immunology, Cancer Therapeutic Response, Protein-Protein Interaction Networks

Jean Cook, Cell Cycle Control in Human Cells, Cell Proliferation Dynamics, Genome Stability Control, Molecular Biology, Quantitative Single Cell Analysis

Henrik Dohlman, 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, X-ray Protein Crystallography and Biochemistry

Krzysztof Krajewski, Core Director of High-Throughput Peptide Synthesis, Peptide Chemistry and Synthesis, Histone PTMs, Application of Peptides in Biochemical Assays

Brian Kuhlman, Protein Design, Protein Therapeutics, and Molecular Modeling

Andrew Lee, Protein Dynamics, Allostery, NMR Spectroscopy, Click Chemistry, Protein Biophysics, Thymidylate Synthase
Karin Leiderman, Mathematical Biology, Mathematical Modeling of Biochemical Systems, Especially Blood Coagulation, and Computational Biofluid Dynamics
William F. Marzluff, Biochemical & Genetic Analysis of Histone mRNA Processing & Histone Locus Body Formation in Drosophila
Saskia Neher, Lipoprotein Lipase, Heart Disease, Cryo-EM, Drug Discovery, Enzymology, ANGPTL4, Lipids, Structural Biology
Gary Pielak, Protein Biophysics Emphasizing Studies in Living Cells
Dale Ramsden, Chromosome Breaks, DNA Repair, Enzymes that Repair DNA, Targeting DNA Repair for Cancer Therapy, RNA in the Chromosome
Matthew Redinbo, Drug Discovery and the Gut Microbiome
Aziz Sancar, DNA Repair Enzymology and Genomics, Mammalian Circadian Clock, Control of DNA Repair by the Circadian Clock
John Sondek, Rho GTPases, Dbl-Family RhoGEFs, Phospholipase C Isozymes, Drug Discovery
Brian Strahl, Histone Modifications and Epigenetics; Core Techniques: Yeast Genetics, Peptide Synthesis, Peptide Arrays, Mammalian Cell Culture
Ronald I. Swanstrom, HIV, Pathogenesis, Replication, NeuroAIDS, Latency, Resistance
Cyrus Vaziri, Regulation of DNA Replication and S-Phase Checkpoints, and Post-Replication DNA Repair on Mammalian Cells
Qi Zhang, Molecular Basis of RNA Function

Associate Professors

Jill Downen, Three-Dimensional Genome Organization and Gene Expression in Stem Cells and Cancer Cells
Gaorav Gupta, DNA Damage Responses, Genome Instability Pathways, Targeted Therapy and Breast Cancer
Silvia M Kreda, UNC Cystic Fibrosis Ctr./ Marsico Lung Inst.
Laura Lindsey-Boltz, DNA Damage, Checkpoint, Excision Repair
Pengda Liu, Cell Signaling, Cancer, mTOR, Akt, Post-Translational Modification, Protein-Protein Interaction
Rob McGinty, Mechanisms of Epigenetic Signaling
Silvia Ramos, RNA Binding Proteins, Gene Regulation, mRNA Decay, Hemato-Immunology, Mouse Models

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, Molecular Basis of RNA Function
Venkata Chirasani, Director of R.L. Juliano Structural Bioinformatics Core, Modeling of Biomolecular Complexes, Molecular Dynamics Simulations, and Computational Drug Design
Justin Jensen, Biochemistry and Structural Biology of Anti-Phage Immunity
Guochun Jiang, Transcription of HIV, Epigenetics, NF-KappaB Signaling, HIV-Associated Neurocognitive Disorders, HIV Cure Strategies
Joanna, Kovalski, Post-Transcriptional Control of Gene Expression in Cancer
Robert Lee, Adhesion Mechanism of Platelets and Neutrophils, Thrombotic Disorders, Platelet Signaling, Platelet Transfusion, Anti-Platelet Therapy
Zhijun Li, Molecular Basis of RNA Function
Stuart Parnham, Director of UNC Biomolecular NMR Core

David Paul, Adhesion Mechanism of Platelets and Neutrophils, Thrombotic Disorders
Nikea Pittman, Instructor, Director of Undergraduate Studies, STEM Education, Supportive Learning Communities, Undergraduate/Graduate Education
Christopher Selby, Instructor, DNA Repair
Clint Stalneck
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
Tigist Tamir, Cancer Metabolism, Obesity, Diabetes, Cell Signaling, Metabolism, Redox Homeostasis, Phosphoproteomics, Metabolomics, Mass Spectrometry, Computational Modeling, Biochemistry
Christopher Travis, Director of Mac-in-Fac Core, Macromolecular Interactions
Ling Xie, Biophysical Studies

Professors Emeriti

Michael Caplow
Stephen G. Chaney
Stephen Crews
Ann Erickson
Beverly Errede
Barry R. Lentz
Gwendolyn B. Sancar
Arrel Toews
Thomas W. Traut
Greg Young

Contact Information

Department of Biochemistry and Biophysics
 Visit Program Website (<http://www.med.unc.edu/biochem/>)

Chair
 Jean Cook
jean_cook@med.unc.edu

Director of Graduate Studies
 Wolfgang Bergmeier
bergmeie@email.unc.edu

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.

Courses

Numbered 700-999:

- Bioinformatics and Computational Biology (BCB) (<https://catalog.unc.edu/courses/bcb/>)

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.

This is an "exit master's degree", and is available only to students transferring out of the Ph.D. curriculum in Bioinformatics and Computational Biology (BCB), and with permission of the BCB Director.

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. 26) 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. 26) 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; Biology Jim Bear, Cell Biology and Physiology Kerry Bloom, Biology Charles Carter, Biochemistry

and Biophysics Ian Davis, Genetics; Pediatrics Dirk Dittmer, Microbiology and Immunology Henrik Dohlman, Pharmacology; Biochemistry and Biophysics Timothy Elston, Pharmacology; Computational Medicine Gregory Forest, Math; Biomedical Engineering Flavio Frohlich, Psychiatry; Cell Biology and Physiology; Biomedical Engineering; Neurology Terry Furey, Genetics; Biology Shawn Gomez, Biomedical Engineering Boyce Griffith, Mathematics; Biomedical Engineering Melissa Haendel, Genetics; Pediatrics Klaus Hahn, Pharmacology; Medicinal Chemistry Corbin Jones, Biology; Genetics Brian Kuhlman, Biochemistry and Biophysics Alain Laederach, Biology Sam Lai, School of Pharmacy Yun Li, Genetics; Biostatistics Yufeng Liu, Statistics & Operations Research; Biostatistics; 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; Pathology & Laboratory Medicine; Computational Medicine; Lineberger Comprehensive Cancer Center Jan Prins, Computer Science Jeremy Purvis, Genetics; Computational Medicine Jack Snoeyink, Computer Science John Sondek, Pharmacology; Biochemistry and Biophysics Brian Strahl, Biochemistry and Biophysics Alex Tropsha, Chemical Biology and Medicinal Chemistry William Valdar, Genetics; Biostatistics Pew-Thian Yap, Radiology Fei Zou, Biostatistics; Genetics Mark Zylka, Neuroscience Center; Cell Biology and Physiology

Associate Professors

J. Mauro Calabrese, Pharmacology; Lineberger Comprehensive Cancer Center
 Brian Diekman, Biomedical Engineering; Thurston Arthritis Research Center
 Jill Downen, Biochemistry and Biophysics; Biology
 Erin Heinzen, Genetics; Pharmacotherapy & Experimental Therapeutics
 Bradley Hemminger, School of Information and Library Science
 Katherine Hoadley, Genetics; Lineberger Comprehensive Cancer Center
 Samir Kelada, Genetics
 Daphne Klotz, Applied Physical Sciences
 Karin Leiderman, Mathematics
 Jun Li, School of Data Science and Society
 Sarah Linnstaedt, Anesthesiology
 Mike Love, Genetics; Biostatistics
 Adrian Marchetti, Marine Sciences
 Daniel McKay, Biology; Genetics
 Yinglong Miao, Pharmacology; Computational Medicine
 Jonathan Parr, Medicine
 Konstantin Popov, Biochemistry and Biophysics
 Daniel Schrider, Genetics
 Shehzad Sheikh, Genetics; Medicine
 Jason Stein, Genetics; Neuroscience Research Center
 Benjamin Vincent, Medicine, Division of Hematology/Oncology
 Todd Vision, Biology; School of Information and Library Science
 Jeremy Wang, Pathology and Laboratory Medicine; Genetics
 Di Wu, Periodontics, School of Dentistry; Biostatistics
 Anthony Zannas, Psychiatry; Genetics

Assistant Professors

Tessa Andermann, Medicine Elizabeth Brunk, Pharmacology; Chemistry Iain Carmichael, Pathology; Data Science Daniel Dominguez, Pharmacology Laura Ferguson, Pharmacology; Psychiatry Parul Johri, Biology; Genetics Wesley Legant, Biomedical Engineering; Pharmacology Xihao Li, Biostatistics; Genetics Qingyun Liu, Genetics Yusha Liu, Biostatistics Brian Miller, Medicine - Oncology 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; Computational
Medicine **Jonathan Schisler**, Pharmacology **Natalie Stanley**,
Computer Science; Genetics **Hyejung Won**, Genetics **Huaxiu Yao**,
Computer Science; School of Data Science and Society **Daiwei**
(David) Zhang, Biostatistics; Genetics **Ran Zhang**, School of
Data Science and Society **Tarek Zikry**, School of Data Science and
Society

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 and Environmental Medicine. Students interested in pursuing a Ph.D. in any of these programs can apply to BBSP. For a complete list of faculty in BBSP see the faculty page (<http://bbbsp.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://bbbsp.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 (\$37,500 in 2026–2027). Tuition, health insurance, dental insurance, and fees are covered by the program.

Courses

Numbered 700-999:

- Biological and Biomedical Sciences Program (BBSP) (<https://catalog.unc.edu/courses/bbsp/>)

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)

Minimum Hours 18

Ph.D. Programs

- Applied Physical Sciences (p. 68)
- Biochemistry & Biophysics (p. 78)
- Bioinformatics & Computational Biology (p. 81)
- Biology (p. 85)
- Cell Biology & Physiology (p. 100)
- Chemistry (p. 104)
- Genetics & Molecular Biology (p. 181)
- Microbiology & Immunology (p. 238)
- Neuroscience (p. 245)
- Nutrition (p. 253)
- Oral & Craniofacial Biomedicine (p. 137)
- Pathobiology & Translational Science (p. 262)
- Pharmaceutical Sciences (p. 270)
- Pharmacology (p. 267)
- Toxicology & Environmental Medicine (p. 317)

Contact Information

Biological and Biomedical Sciences Program

Visit Program Website (<http://bbbsp.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://bbbsp.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.

Courses

Numbered 400-999:

- Biology (BIOL) (<https://catalog.unc.edu/courses/biol/>)

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
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
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. Downen, 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

Assistant Professors

Jiakun Chen, Neuroscience, Glial Biology, Astrocytes, Development, Genetics

Robert H. Downen, 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

Laura Lee, Nuclear Glutathione Signaling in Plant Development and Regeneration

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

Patricia G. Gensel, Paleobotany and Morphology

Alan M. Jones, Signal Perception and the Regulation of Growth and Development

Joel G. Kingsolver, Evolutionary Ecology and Physiological Ecology

Punita Nagpal, Plant Development

Robert K. Peet, Plant Ecology, Plant Geography, Ecolinformatics

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

Jean DeSaix, Biology Pedagogy

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

William M. Kier

Gustavo Maroni

Steven W. Matson

E.D. Salmon

Lillie L. Searles

Alan E. Stiven

Todd J. Vision, Computational Genetics, Genome Evolution, and the Architecture of Complex Traits

Peter White

R. Haven Wiley

Contact Information

Department of Biology

Visit Program Website (<http://bio.unc.edu>)

Department Chair

Robert Duronio

duroanio@med.unc.edu

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/>)

Courses

Numbered 400-999:

- Biomedical Engineering (BMME) (<https://catalog.unc.edu/courses/bmme/>)

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.

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.

Recommended Checklist

Students can review a recommended checklist here (https://docs.google.com/document/d/1CEStdQJ4D-_PzdA88JRNQZP85uvGBg1/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

Ashley Brown, Lampe Distinguished Professor

Lianne Cartee, Alumni Distinguished Undergraduate Professor

Jacqueline Cole, Alumni Distinguished Undergraduate Professor

Paul Dayton, William R. Kenan Jr. Distinguished Professor
Greg M. Forest, Grant Dahlstrom Distinguished Professor
Caterina Gallippi, William R. Kenan Jr. Distinguished Professor
Harvinder Gill, Ronald B. and Cynthia J. McNeill Term Professor
He (Helen) Huang, Jackson Family Distinguished Professor
Weili Lin, Dixie Lee Boney Soo Distinguished Professor
Roger Narayan, Distinguished Professor
Koji Sode, William R. Kenan Jr. Distinguished Professor
George (Rick) Stouffer, Ernest and Hazel Craige Distinguished Professor

Professors

Ashley Brown Lianne Cartee Jacqueline Cole Michael
Daniele Paul Dayton Matthew Fisher Greg M. Forest Jason
Franz Caterina Gallippi Harvinder Gill Shawn Gomez Helen
Huang Derek Kamper Weili Lin Scott Magness H. Troy Nagle Roger
Narayan Ginamarco Pinton Koji Sode George (Rick) Stouffer David
Zaharoff

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Donnelly Uzay Emir Oleg Favorov Donald Freytes Michael
Gamcsik David Hill Devin Hubbard Naji Husseini David
Lalush Wesley Legant Ming Liu Jeffrey Macdonald Virginie
Papadopolou Matthew Penny Ross Petrella William Polacheck Imran
Rizvi Nitin Sharma Anka Veleva Bruce Wiggin

Assistant Professors

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Joseph Burclaff
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Phillip Durham
Alon Greenbaum
Geoffrey Handsfield
Kennita Johnson
Margo MacDonald
Varun Nalam
Hayley Richardson
Rinku Roy
Francisco Santibanez
Sarah Shelton
Cameron Taylor
James Tsuruta
Michael Wilkins
Amol Yadav

Professors Emeriti

Frank Abrams
Albert Banas
Carol Lucas
J. Michael Ramsey

Professor of the Practice

Matthew Penny

Lecturers

Nick Jardine

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Department of Biomedical Engineering

Visit Program Website (<http://www.bme.unc.edu>)

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M.S. MedTech Program Director

David Zaharoff

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Graduate Program Coordinator

Vilma Berg

vberg@email.unc.edu

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 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.

Courses

Numbered 400-999:

- Biostatistics (BIOS) (<https://catalog.unc.edu/courses/bios/>)

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 (NCSSU); 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. 26) 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	Foundations of 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 841	Principles of Statistical Collaboration and Leadership	3
BIOS 843	Seminar in Biostatistics ²	4
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		64

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 767	Longitudinal Data Analysis	4
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 780	Theory and Methods for Survival Analysis	3
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. 26) 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 Teaching 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

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, Heart 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

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

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
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

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Jeff Laux
Vincent Touns (17)

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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 science in 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 46,000. 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.

Courses

Numbered 400-999:

- Business Administration (BUSI) (<https://catalog.unc.edu/courses/bios/>)

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. The flexible core allows students to select the timing of certain courses to align with their career and recruiting goals. A substantial portion of the second semester of the first year and the entire second year is devoted to elective courses where students pursue academic concentrations and participate in career pathways to develop skills that align with unique personal and professional interests. Throughout the program, you'll work with real data and real companies, learn to ask the right questions, develop your teamwork skills 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 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/>): 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 three 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 nine 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/>): 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. An in-person orientation and immersive in-person domestic or global Summit experience are also required. 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 at (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
 Camelia Kuhnén, 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
 Elena Simintzi, 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
 Kristopher Keller, Marketing
 Tim Kundro, Organizational Behavior
 Matthew Pearsall, Organizational Behavior
 Jana Smith Raedy, Accounting
 Gill Segal, Finance
 Elad Sherf, Organizational Behavior
 Nur Sunar, Operations
 Yujian 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
 Ingrid Koch, Marketing
 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
 Mirela Sandulescu, Finance
 Donghwa Shin, Finance
 Laura Sunday, 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
 Arzu Ozoguz, Finance
 Christine Porath, 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
 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
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-affiliated/>

Contact Information

Kenan–Flagler Business School

Visit Program Website (<http://www.kenan-flagler.unc.edu>)

Dean

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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://bbbsp.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.

Courses

Numbered 700-999:

- Cell Biology and Physiology (CBPH) (<https://catalog.unc.edu/courses/cbph/>)

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	1
CBPH 856	Career and Research Enhancement Seminar (CaRES) ¹	1
Electives		
A minimum of two graduate-level electives must be taken, at least one of which must be in CBPH, for a total of 3 to 9 hours. Elective courses can be approved by the DGS. ²		3-9
Thesis/Substitute Dissertation		
CBPH 992	Master's (Non-Thesis) ³	3
Minimum Hours		30

¹ CBPH 855 must be taken every Fall and CBPH 856 must be taken every Spring.

² CBPH 705 and CBPH 910 are valid elective course options and CBPH 705 is strongly recommended.

³ 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. 26) 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. 26) 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	Cell Biology and Physiology in Health and Disease I	4.5
CBPH 853	Cell Biology and Physiology in Health and Disease II	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		
Elective course(s) not on the list below must be approved by the Director of Graduate Studies. Students must take a minimum of 3 credit hours for this requirement.		3
Thesis/Substitute or Dissertation ³		
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 Must be taken every semester starting in the fall semester of their second year with a 6-hour minimum.

Code	Title	Hours
Electives		
BCB 730	Fundamentals of Quantitative Image Analysis for Light Microscopy	1
CBPH 710	Advanced Light Microscopy	3
CBPH 730	Fundamentals of Quantitative Image Analysis for Light Microscopy	1
GNET 621	Principles of Genetic Analysis I	4
GNET 631	Advanced Molecular Biology	4
GNET 730	Fundamentals of Quantitative Image Analysis for Light Microscopy	1
GNET 743	Introductory Statistical Analysis in R for Biomedical Scientists	1
GNET 749	Practical RNA-Seq	2
PATH 713	Molecular and Cellular Pathophysiological Basis of Disease: Mechanisms of Disease	3
PATH 725	Cancer Pathobiology	3
PATH 766	Current Topics in Cardiovascular Biology	3
PHCO 701	Introduction to Molecular Pharmacology	3
PHCO 702	Principles of Pharmacology and Physiology	3
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 745	Intercellular Signaling in Development and Disease	1
MCRO 630	Virology	3
MCRO 730	Cancer Immunology	3
NBIO 722	Cellular and Molecular Neurobiology	6
NBIO 723	Cellular and Molecular Neurobiology	6

Milestones

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 26) 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
Wolfgang Bergmeier
Jay Brenman
Patrick Brennwald
Craig Cameron
Sharon Campbell
Kathleen Caron
Richard Cheney
Jean Cook
Frank Conlon
Douglas M. Cyr
Channing Der
Mohanish P. Deshmukh
Ron Falk
Bob Goldstein
Stephanie Gupton
Klaus Hahn
James Hagood
Alan Jones
Tom Kash
William Kim
Jiandong Liu
Richard Loeser
Chris Mack
Amy Maddox
Greg Matera
Mark Peifer
Ben Philpot
Li Qian
Scott Randell
Juan Song
Joan Taylor
Jenny Ting
Jen Jen Yeh
Mark Zylka

Associate Professors

Michael Bressan
Sarah Cohen
Todd Cohen
Adrienne Cox
Graham Diering
Mike Emanuele
Flavio Frohlich
Kurt Gilliland
Jimena Giudice
Adam Gracz
Adam Hantman
Toshihide Hige
Brian Jensen
Scott Magness
Zoe McElligott
Saskia Neher
Lori O'Brien
Larry Ostrowski
Scott Parnell
Douglas Phanstiel
Yuliya Pylayeva-Gupta
Stephen Rogers

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Aadra Bhatt
Jessica Bowser
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Gang Chen
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Rob Downen
Whitney Edwards
Michelle Itano
Wesley Legant
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Noelle A. Granger
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Enid R. Kafer
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Paul Manis
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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.

Courses

Numbered 400-999:

- Chemistry (CHEM) (<https://catalog.unc.edu/courses/chem/>)

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

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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://hpd.unc.edu/>)

Courses

Numbered 400-999:

- City and Regional Planning (PLAN) (<https://catalog.unc.edu/courses/plan/>)

Please visit the department's website for a current listing (<http://planning.unc.edu/academics/>) of graduate and undergraduate courses offered.

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. 26) 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 project constitutes 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. 26) 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

Miyuki Hino, Land Use and Environmental Planning, Climate Change, Flooding, Coastal Resilience

Noah Kittner, Land Use and Environmental Planning, Sustainable Energy Systems (joint appointment with ENVR)

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

Shakirah Hudani, Urbanization in the Global South (joint appointment with AAAD)

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

Contact Information

Department of City and Regional Planning

Visit Program Website (<http://www.planning.unc.edu>)

Department Chair

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Associate Director of Graduate Programs

Sandra Lazo de la Vega

sandral@unc.edu

Student Services Manager

Sarah Ward

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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 Ph.D. prepares students 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.

Courses

Numbered 400-999:

- Classical Archaeology (CLAR) (<https://catalog.unc.edu/courses/clar/>)
- Classics in English/Classical Civilization (CLAS) (<https://catalog.unc.edu/courses/clas/>)
- Greek (GREK) (<https://catalog.unc.edu/courses/grek/>) *NOTE: One or two Greek courses numbered in the 700s are offered each semester.*
- Latin (LATN) (<https://catalog.unc.edu/courses/latn/>) *NOTE: One or two Latin courses numbered in the 700s are offered each semester.*

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.

- CLAS 409, CLAS 413, CLAS 415, CLAS 511, CLAS 691H, CLAS 692H.

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 classical philology, classics with historical emphasis, or classical archaeology. 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
Patricia Rosenmeyer (26), Greek Literature

Associate Professors

Al Duncan (4), Classics and Humanities
Jennifer Gates-Foster (7), Roman Archaeology, Ptolemaic and Roman Egypt
Suzanne Lye (35), Greek Literature
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
Timothy D. Shea (27), Greek Archaeology, Sculpture, and Topography
Jennifer Weintritt (5), Latin Poetry in Critical Theory

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
James B. Rives
Cecil W. Wooten

Contact Information

Department of Classics
 Visit Program Website (<http://www.classics.unc.edu>)

Chair
 Emily Baragwanath
 ebaragwanath@unc.edu

Director of Graduate Studies
 Peter O'Connell
 poconnell@unc.edu

Director of Archaeology Program
 Jennifer E. Gates-Foster
 gatesfos@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.

Courses

Numbered 700-999:

- Clinical Rehabilitation and Mental Health Counseling (CRMH) (<https://catalog.unc.edu/courses/crmh/>)

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 822	Marriage, Couple & Family Counseling in Clinical Rehabilitation & Mental Health Counseling	3
Subplan Options ¹		
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	
Thesis/Substitute or Dissertation ²		
CRMH 992	Master's (Non-Thesis)	6
or CRMH 993	Master's Research and Thesis	
Minimum Hours ²		60.5-65

¹ Please note that if you are pursuing the dual subplan then your tracker will reflect an additional 1.5 credit hours.

² Please note, if there is a discrepancy in credit hours, please contact your department program coordinator.

Milestones

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 26) 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

Professor

Eileen J. Burkner, 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 Tomaszewski, 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 Burkner
eburker@med.unc.edu

Admissions Chair

Dara Chan
dara_chan@med.unc.edu

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.

Courses

Numbered 700-999:

- Clinical Rehabilitation and Mental Health Counseling (CRMH)
(<https://catalog.unc.edu/courses/crmh/>)

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 822	Marriage, Couple & Family Counseling in Clinical Rehabilitation & Mental Health Counseling	3

Subplan Options ¹

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	

Thesis/Substitute or Dissertation ²

CRMH 992	Master's (Non-Thesis)	6
or CRMH 993	Master's Research and Thesis	

Minimum Hours ²

63.5-68

¹ Please note that if you are pursuing the dual subplan then your tracker will reflect an additional 1.5 credit hours.

² Please note, if there is a discrepancy in credit hours, please contact your department program coordinator.

Milestones

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 26) 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

Professor

Eileen J. Burkner, 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@med.unc.edu

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 Tomaszewski, 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. Burkner
eburker@med.unc.edu

Admissions Chair

Dara Chan

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/>).

Courses

Numbered 700-999:

- Communication (COMM) (<https://catalog.unc.edu/courses/comm/>)

NOTE: Courses are offered on demand except as otherwise noted.

Professors

Renée 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

Lisa Calvente, Performance Studies, Cultural Studies

Sarah Dempsey, Organizational Communication, Organizing in Global Contexts

Julia Haslett, Media and Production, Documentary Filmmaking

Sun-Ha Hong, Media and Technology Studies

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

Aaron Shapiro, Media and Technology Studies

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

E. Chebrolu, Rhetoric of Race, Rhetoric and Social Media

David Dooling, Organizational Communication, Queer Studies, Gender Studies

Burç Köstem, Media and Technology Studies, Cultural Studies

Haley Schneider, Rhetoric, Environmental Studies

Professors Emeriti

V. William Balthrop

Carole Blair

Robbie Cox

Cori Dauber

Paul Ferguson

Lawrence Grossberg

Ken Hillis

Gorham Kindem

Beverly Long

Dennis Mumby

Della Pollock

Lawrence B. Rosenfeld

David Sontag

Francesca Talenti

Julia T. Wood

Contact Information

Department of Communication

Visit Program Website (<http://comm.unc.edu/>)

Department Chair

Avi Santo

asanto@unc.edu

Director of Graduate Studies

Steve May

skmay@email.unc.edu

Director of Graduate Admissions

Aaron Shapiro

aaron.shapiro@unc.edu

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>).

Courses

Numbered 400-999:

- Computer Science (COMP) (<https://catalog.unc.edu/courses/comp/>)

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. 26) 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 662Scientific 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
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. 26) 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

Jasleen Kaur (88), Design and Analysis of Networks and Distributed Systems, High-Speed Congestion Control, Resource Management, Internet Measurements, and Transport Protocols

Xiaoming Liu, Computer Vision, Pattern Recognition, Image and Video Processing, Machine Learning, Human Computer Interface, Medical Image Analysis, Multimedia Retrieval

Ketan Mayer-Patel (80), Multimedia Systems, Networking

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

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 (191), Machine Learning, Statistics, Theoretical Computer Science

Mingyu Ding (192), 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

Sishuai Gong (199), System Reliability and Security, Machine Learning, Computer Architecture

Andrew Kwong (184), Security, Applied Cryptography

Julia Len, Applied Cryptography, Computer Security

Raghavendra Pothukuchi (193), Computer Architecture and Systems, Brain-Computer Interfaces, Quantum Computing, Brain-Inspired AI Hardware, Cognitive Modeling, Formal Control, Energy and Power Efficiency, Security, Machine Learning

Zhongzheng Ren, Computer Vision, Machine Learning, Computer Graphics, Generative Modeling, 3D Vision, Efficient ML, LLMs

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

Sayed 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

Kaki Ryan, Hardware Security, Symbolic Execution, Computer Science Education and Pedagogy

Jorge Silva (161)

Kevin Sun (195), 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

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DATA AND INFORMATION SCIENCES (GRAD)

The School of Data and Information Sciences (SDIS) was founded in 2026 by joining the School of Information and Library Science (1931) and the School of Data Science and Society (2022). SDIS brings together longstanding excellence in information and library science with leadership in data science, including computational and statistical methods, and societal applications.

Home to a top-ranked library and information science program, SDIS is recognized for strong teaching, research and service and is the home to the Carolina Health Informatics Program (CHIP) and the Center for Information, Technology and Public Life (CITAP). The School teaches and trains undergraduate and graduate students in data science, health informatics, information science and library science, as well as offers certificates for adult learners.

SDIS conducts research and scholarship across the data and information life cycle, with an emphasis on human-centric, ethical and applied approaches. Committed to data, information and AI literacy for all Tar Heels, SDIS faculty are tackling our communities' most pressing needs and our world's most intractable challenges.

Courses

Numbered 400-999:

- Data Science and Society (DATA) (<https://catalog.unc.edu/courses/data/>)
- Information and Library Science (INLS) (<https://catalog.unc.edu/courses/inls/>)
- Carolina Health Informatics Program (CHIP) (<https://catalog.unc.edu/courses/chip/>)

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

Master of Applied Data Science

The Master of Applied Data Science (<https://go.unc.edu/MADS/>) (MADS) 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. The degree (<https://go.unc.edu/UNCMADS/>) culminates in a team-based capstone with students working on real-world data challenges. The curriculum (<https://go.unc.edu/MADScourses/>) and the capstone focus on the practical development and application of data science skills, equipping students to advance in professional settings. View more information and course requirements. (https://info.online.unc.edu/requestinfo/datascience/?x=OFB&lsrc=search_brand_google&https://

info.online.unc.edu/requestinfo/datascience/

[&gclid=aw.ds&gad_source=1&gad_campaignid=20305298107&gbraid=0AAAAADK&](https://info.online.unc.edu/requestinfo/datascience/?x=OFB&lsrc=search_brand_google&https://)

Master of Science in Data Science

The Master of Science in Data Science (<https://go.unc.edu/MSinDataScience/>) will prepare students to enter industry across a spectrum of disciplines. By the end of study, graduates will be ready to occupy leadership roles in organizations, directing research or developing new analytic and computational tools and technologies. This is a three-semester, 30-credit-hour degree with key curricular components such as foundational coursework, professional development, and specialization tracks. Students will choose to complete either a capstone project or a research thesis as a summative assessment in the program. Students may also extend their studies, if necessary, particularly if they complete a research thesis in preparation for admission to a Ph.D. program.

Master of Science in Library Science

The goal of the M.S.L.S. program (<https://go.unc.edu/MSLS/>) 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 (<https://go.unc.edu/ILSMasters/>) 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 or INLS 779	Research Methods and Proposal Development Practicum Project Development	3

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 550	History of the Book and Other Information Formats	
INLS 584	Information Ethics	
INLS 609	Experimental Information Retrieval	
INLS 620	Distributed Knowledge Graphs I: Core Concepts and Standards	
INLS 625	Information Analytics	
INLS 707	Government Information	
INLS 708	Law Libraries and Legal Information	
INLS 709	Business Information	
INLS 714	Introduction to Information Analytics	
INLS 720	Data Practices and Standards	
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 and Reader's Advisory	
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 551	History of Libraries and Other Information-Related Cultural Institutions	
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 685	Project Management: Strategy and Applications	
INLS 700	Scholarly Communication	
INLS 710	Evidence-Based Clinical Practice	
INLS 711	Crisis Management for Libraries	
INLS 719	Usability Testing and Evaluation	
INLS 721	Cataloging Theory and Practice	
INLS 733	Public Library Work with Youth	
INLS 782	Library Assessment	
INLS 783	Library Instruction & Pedagogy	

INLS 787	Legal Issues for Librarians

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	Introduction to Programming	
INLS 561	Digital Forensics for Curation of Digital Collections	
INLS 570	Fundamentals of Programming Information Applications	
INLS 572	Web Development	
INLS 613	Text Mining	
INLS 623	Database Systems II: Intermediate Databases	
INLS 641	Visual Analytics	
INLS 642	Data Mining	
INLS 661	Social Informatics	
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	
INLS 760	Web Databases	
INLS 818	Seminar in Human-Computer Interaction	

People and Communities bin

Code	Title	Hours
INLS 500	Human Information Interactions	
INLS 660	Social Media and Society: A Theoretical and Empirical Overview	
INLS 737	Inclusive Information Services for Diverse Populations	
INLS 739	Programming and Outreach for Library User Populations	
INLS 754	Access and Outreach for Archives	
INLS 759	Community Archiving	

Milestones

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 26) 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 (<https://go.unc.edu/MSIS/>) 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 550	History of the Book and Other Information Formats	
INLS 584	Information Ethics	
INLS 709	Business Information	
INLS 609	Experimental Information Retrieval	
INLS 620	Distributed Knowledge Graphs I: Core Concepts and Standards	
INLS 625	Information Analytics	
INLS 707	Government Information	
INLS 708	Law Libraries and Legal Information	
INLS 714	Introduction to Information Analytics	
INLS 720	Data Practices and Standards	
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 and Reader's Advisory	
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 551	History of Libraries and Other Information-Related Cultural Institutions	
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 685	Project Management: Strategy and Applications
INLS 700	Scholarly Communication
INLS 710	Evidence-Based Clinical Practice
INLS 711	Crisis Management for Libraries
INLS 719	Usability Testing and Evaluation
INLS 721	Cataloging Theory and Practice
INLS 733	Public Library Work with Youth
INLS 782	Library Assessment
INLS 783	Library Instruction & Pedagogy
INLS 787	Legal Issues for Librarians
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	Introduction to Programming
INLS 561	Digital Forensics for Curation of Digital Collections
INLS 570	Fundamentals of Programming Information Applications
INLS 572	Web Development
INLS 613	Text Mining
INLS 623	Database Systems II: Intermediate Databases
INLS 641	Visual Analytics
INLS 642	Data Mining
INLS 661	Social Informatics
INLS 760	Web Databases
INLS 818	Seminar in Human-Computer Interaction
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 737	Inclusive Information Services for Diverse Populations
INLS 739	Programming and Outreach for Library User Populations
INLS 754	Access and Outreach for Archives
INLS 759	Community Archiving

Electives 18

6 elective courses of the student's choice. These courses can be all 18 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	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. 26) for more information.

- Master's Committee
- Master's Written Exam/Approved Exam Substitute
- Thesis Substitute
- Residence Credit
- Master's Exit Survey

Digital Curation and Management, M.P.S.

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 asset 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.

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.

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. 26) for more information.

- Master's Committee
- Master's Written Exam/Approved Exam Substitute
- Thesis Substitute
- Residence Credit
- Master's Exit Survey

Biomedical and Health Informatics, M.P.S.

The M.P.S. in Biomedical and Health Informatics (<https://go.unc.edu/MPSBMHI/>) 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
Core Requirements		
Human-Centered Systems		
Complete a minimum of 6 credit hours in human-centered systems courses. CHIP 710 is required. Choose from the list below.		
CHIP 710	Systems Analysis in Healthcare (Required) ¹	
CHIP 711	Human Factors in Healthcare and AI	
INLS 509	Information Retrieval	
INLS 718	User Interface Design	
INLS 719	Usability Testing and Evaluation	

INLS 777 Perspectives on Information, Technology, and People

Data and Technology

Complete 6 credit hours of data and technology courses.

CHIP 705 Introduction to Programming for Healthcare Application ²

or INLS 560 Introduction to Programming

CHIP 732 Database Systems in Healthcare ³

or INLS 523 Introduction to Database Concepts and Applications

Health Context

Complete 6 credit hours of health context courses. CHIP 721 and CHIP 725 required.

CHIP 721 Healthcare Systems in the US ⁴

CHIP 725 Electronic Health Records

Professional Foundations 6

Complete a minimum of 6 credit hours of professional foundations courses. Choose from the course list below.

Track Courses 8

Complete a minimum of 8 credit hours in track courses. Select a track and courses from the course list below.

Internship (Thesis Substitute) 3

Minimum of 300 total hours. Internship can be completed in 1 semester or over multiple semesters.

CHIP 793 Health Informatics Internship

Minimum Hours 35

¹ Students previously took CHIP 490.296 (hybrid), CHIP 490.311 (online), CHIP 490.320 (on campus), CHIP 690.311 (online), or CHIP 690.320 (on campus).

² Students previously took CHIP 490.335 or CHIP 690.335.

³ Students previously took CHIP 490.297 or CHIP 690.297.

⁴ Students previously took CHIP 490.261.

Code	Title	Hours

Professional Foundations Courses

CHIP 400	Digital Health Innovation	

CHIP 715	Quality Improvement and Lean Six Sigma	

GRAD 712	Leadership in the Workplace	

GRAD 713	Project Management: Frameworks, Principles and Techniques	

GRAD 715	Professional Communication	

GRAD 725	Build Your Professional Brand	

GRAD 726	Executive Perspective: Business Fundamentals	

GRAD 727	Team Collaboration	

HPM 730	Leadership and Workforce Management Strategies	

INLS 585	Management for Information Professionals	

INLS 685	Project Management: Strategy and Applications	

MBA 893B	Healthcare Analytics	

NURS 746	Health Care Policy and Leadership	

NURS 790I	Population Health: Interprofessional Management in a Changing Healthcare System	

PUBH 747	Project Management Principles and Practices	

PUBH 748	Leadership in Health Policy for Social Justice	

PUBH 784	Project Management Strategy and Application	

Track Electives

Clinical Track

CHIP 708	Foundations of Clinical Data Science

CHIP 707	Data Analytics in Healthcare

CHIP 770	Health Informatics Seminar

INLS 613	Text Mining

INLS 625	Information Analytics

INLS 718	User Interface Design

NURS 870	Applied Health Informatics in Complex Health Care Systems

Data Science & Artificial Intelligence Track

CHIP 708	Foundations of Clinical Data Science

CHIP 718	Data Visualization in Healthcare

CHIP 741	Health App Development with JavaScript and FHIR

CHIP 752	Introduction to Statistical Analysis in Healthcare

CHIP 753	Advanced Statistical Analysis and Quantitative Methods in Healthcare

CHIP 770	Health Informatics Seminar

INLS 613	Text Mining

INLS 641	Visual Analytics

INLS 642	Data Mining

INLS 772	Applied Statistics, Machine Learning, & Data Communication

INLS 774	Applied Data Ethics

Patient Safety Track

CHIP 715	Quality Improvement and Lean Six Sigma

CHIP 718	Data Visualization in Healthcare

CHIP 770	Health Informatics Seminar

PUBH 730	Leading Continuous Quality Improvement (CQI) in Public Health Locally And Globally

Public Health Track

CHIP 770	Health Informatics Seminar

HPM 620	Implementing Health Informatics Initiatives for Emerging Leaders

HPM 671	Statistical Methods for Health Policy and Management

PUBH 714	Introduction to Monitoring and Evaluation

Build Your Own Track

Select a minimum of 8 credit hours from any track course options to customize your own track. Additional course options may be considered with Program Director Approval.

Milestones

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 26) for more information.

- Master's Committee
- Master's Oral Exam/Approved Exam Substitute
- Thesis Substitute
- Residence Credit
- Master's Exit Survey

Data Science, Ph.D.

The Doctor of Philosophy in Data Science (<https://go.unc.edu/PhDinDataScience/>) will prepare students to enter academia or industry across a spectrum of disciplines. By the end of study, graduates will be ready to occupy leadership roles in organizations, directing research teams, developing new analytic and computational tools and technologies, and delivering the most up-to-date instruction to the next generation of learners. The program is a five-year, 56-credit hour degree with key curricular components such as foundational coursework, research rotations, and specialization tracks.

Information and Library Science, Ph.D.

The Doctor of Philosophy in Information and Library Science (<https://go.unc.edu/PhDILS/>) (PhD-ILS) is a residential research degree designed to educate scholars and future leaders in the field of information and library science. Each student will develop a program of studies tailored to their individual interests and career goals. Required classes include a seminar on current research issues in LIS, and coursework on research methods, statistics, and theory. Students will take additional courses related to their specific research area. The PhD-ILS program (<https://go.unc.edu/ILSDoctoral/>) also offers 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
INLS 882	Research Issues and Questions II	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. 26) 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

Health Informatics, Ph.D.

The Ph.D. in Health Informatics program (<https://go.unc.edu/PHDHI/>) 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 Requirements		
Human-Centered Systems		
Must take a minimum of 6 credit hours. CHIP 710: Systems Analysis in healthcare is required. Select from options below.		
CHIP 710	Systems Analysis in Healthcare (Required)	
CHIP 711	Human Factors in Healthcare and AI	
INLS 509	Information Retrieval	
INLS 718	User Interface Design	
INLS 777	Perspectives on Information, Technology, and People	
Data and Technology		
Must take a minimum of 6 credit hours.		
CHIP 705	Introduction to Programming for Healthcare Application	
	or INLS 560 Introduction to Programming	
CHIP 732	Database Systems in Healthcare	
	or INLS 523 Introduction to Database Concepts and Applications	
Health Context		

Must take a minimum of 6 credit hours. CHIP 721 and CHIP 725 required.		
CHIP 721	Healthcare Systems in the US	
CHIP 725	Electronic Health Records	
Professional Foundations		3
Must take a minimum of 3 credit hours. See a list of elective options below.		
Research Methods		3
Must take a minimum of 3 credit hours. See a list of elective options below.		
Electives		9
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. ¹		
Thesis/Substitute or Dissertation		
CHIP 994	Doctoral Research and Dissertation ²	6
Minimum Hours		55

¹ These lists are not exclusive. With advisor or DGS approval, additional courses may fulfill these requirements.

² Students must take CHIP 994 twice for a minimum of 6 credit hours.

Code	Title	Hours
Professional Foundations		
CHIP 400	Digital Health Innovation	
CHIP 715	Quality Improvement and Lean Six Sigma	
CHIP 793	Health Informatics Internship	
EDUC 850	Change Leadership and Systems Improvement	
GRAD 712	Leadership in the Workplace	
GRAD 713	Project Management: Frameworks, Principles and Techniques	
GRAD 715	Professional Communication	
GRAD 725	Build Your Professional Brand	
GRAD 726	Executive Perspective: Business Fundamentals	
GRAD 727	Team Collaboration	
HPM 730	Leadership and Workforce Management Strategies	
INLS 585	Management for Information Professionals	
INLS 685	Project Management: Strategy and Applications	
MBA 893B	Healthcare Analytics	
NURS 746	Health Care Policy and Leadership	
NURS 790I	Population Health: Interprofessional Management in a Changing Healthcare System	
PUBH 747	Project Management Principles and Practices	
PUBH 748	Leadership in Health Policy for Social Justice	
PUBH 784	Project Management Strategy and Application	

Code	Title	Hours
Research Methods		
CHIP 752	Introduction to Statistical Analysis in Healthcare	
CHIP 753	Advanced Statistical Analysis and Quantitative Methods in Healthcare	
DPET 831	Quantitative Methods in Clinical Research	

HPM 671	Statistical Methods for Health Policy and Management	
HPM 880	Principles of Health Policy Research Methods	
INLS 691H	 Research Methods in Information Science	
INLS 778	Research Methods and Proposal Development	
PUBH 714	Introduction to Monitoring and Evaluation	
Code	Title	Hours
Electives		
CHIP 400	Digital Health Innovation	
CHIP 707	Data Analytics in Healthcare	
CHIP 708	Foundations of Clinical Data Science	
CHIP 711	Human Factors in Healthcare and AI	
CHIP 715	Quality Improvement and Lean Six Sigma	
CHIP 718	Data Visualization in Healthcare	
CHIP 741	Health App Development with JavaScript and FHIR	
CHIP 752	Introduction to Statistical Analysis in Healthcare	
CHIP 753	Advanced Statistical Analysis and Quantitative Methods in Healthcare	
CHIP 770	Health Informatics Seminar	
CHIP 793	Health Informatics Internship	
DPET 831	Quantitative Methods in Clinical Research	
HPM 620	Implementing Health Informatics Initiatives for Emerging Leaders	
HPM 671	Statistical Methods for Health Policy and Management	
HPM 725	Health Care Strategy and Marketing	
HPM 742	Health Care Finance	
HPM 743	Health Care Reimbursement	
HPM 760	Healthcare Quality and Information Management	
HPM 794	Patient-Reported Outcomes Measurement and Application in Healthcare Research and Practice	
HPM 880	Principles of Health Policy Research Methods	
INLS 509	Information Retrieval	
INLS 515	Consumer Health Information	
INLS 613	Text Mining	
INLS 625	Information Analytics	
INLS 641	Visual Analytics	
INLS 642	Data Mining	
INLS 691H	 Research Methods in Information Science	
INLS 718	User Interface Design	
INLS 719	Usability Testing and Evaluation	
INLS 772	Applied Statistics, Machine Learning, & Data Communication	
INLS 773	Database for Data Science	
INLS 774	Applied Data Ethics	
INLS 777	Perspectives on Information, Technology, and People	
INLS 778	Research Methods and Proposal Development	
NURS 870	Applied Health Informatics in Complex Health Care Systems	
PUBH 711	Critical Issues in Global Health	
PUBH 714	Introduction to Monitoring and Evaluation	

PUBH 730 Leading Continuous Quality Improvement (CQI) in Public Health Locally And Globally

Milestones:

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 26) 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)

Professors

David Adalsteinsson
 Stan Ahalt
 Jaime Arguello
 Amarjit Budhiraja
 Robert Capra
 Tressie McMillian Cottom
 Melanie Feinberg
 David Gotz
 Melissa Haendel
 Sandra Hughes-Hassell
 Mohammad Hossein Jarrahi
 Diane Kelly (Wilson Distinguished Professor)
 Ashok Krishnamurthy
 Christopher (Cal) Lee
 Terry Magnuson
 Gary Marchionini (Cary C. Boshamer Distinguished Professor)
 Steve Marron
 Arcot Rajasekar
 Jack Snoeyink
 Brian W. Sturm

Associate Professors

Wei-Tong (Louis) Fan
 Bradley M. Hemminger
 Sun-Ha Hong
 Hsun-Ta Hsu
 Youzuo Lin
 Yifei Lou
 Marijel (Maggie) Melo
 Santiago Olivella
 Courtney Rivard
 Ryan Shaw
 Keriayn Smith
 Francesca Tripodi
 Tzu-Yu (Danny) Wu

Assistant Professors

Alexandra Chassanoff
 Iain Carmichael

Can Chen
 Ziyu Chen
 Anita Crescenzi
 Neil Gaikwad
 Dan Kessler
 Lauren Kucirka
 Harlin Lee, Alex McAvoy
 Lina Montoya
 Jingping Nie
 William (Willie) Payne
 Justin Sola
 Yue (Ray) Wang
 Joseph Winberry
 Ziping Xu
 Huaxiu Yao
 Fei Yu
 Ran Zhang
 Weitong Zhang
 Chudi Zhong
 Tarek Zikry

Teaching Professors

Julie McMurry
 Rei Sanchez-Arias
 David Yokum

Teaching Associate Professor

Ronald Bergquist

Teaching Assistant Professors

Tonya Balan
 Michael Fox
 Elliott Kuecker
 Casey H. Rawson
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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/>).

Courses

Numbered 700-999:

- DENG (<https://catalog.unc.edu/courses/deng/>)
- DHED (<https://catalog.unc.edu/courses/dhed/>)
- ENDO (<https://catalog.unc.edu/courses/endo/>)
- OCBM (<https://catalog.unc.edu/courses/ocbm/>)
- ORPA (<https://catalog.unc.edu/courses/orpa/>)
- OPER (<https://catalog.unc.edu/courses/oper/>)
- ORAD (<https://catalog.unc.edu/courses/orad/>)
- ORTH (<https://catalog.unc.edu/courses/orth/>)
- PEDO (<https://catalog.unc.edu/courses/pedo/>)
- PERI (<https://catalog.unc.edu/courses/peri/>)
- PROS (<https://catalog.unc.edu/courses/pros/>)

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 operator. 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 interprofessional 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.

Trishul Allareddy, Oral and Maxillofacial Radiology
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
Tracy dePeralta, Senior Associate Dean
Kimón 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
Zsuzsa Horvath, Pediatric Dentistry
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
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
Gloria Mejia, Pediatric Dentistry
Kent Moberly, General Dentistry
Antonio Moretti, Associate Dean for Advanced Education, Periodontology
Valerie Murrah, Oral and Maxillofacial Pathology
Marta Musskopf, General Dentistry
Tung Nguyen, Orthodontics
Gustavo Oliveira, Operative Dentistry
Lauren Patton, Oral Medicine
Daniela Peressoni Viera Schuldt, Endodontics
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
Guenther Schuldt Filho, Periodontics
Miguel Simancas Pallares, Pediatric Dentistry
Gary Slade, Public Health
Lisa Stoner, Prosthodontics
Ronald P. Strauss, Pediatric Dentistry
Taiseer Sulaiman, Operative Dentistry
Cristiano Susin, Periodontology
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
Seth Weinberg, Oral and Craniofacial Health Sciences
Jane Weintraub, Pediatric Dentistry
Tiffanie White, 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.*
- 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. 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 the ASOD Compliance Portal.
- 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 either the ASOD onboarding form or the ASOD Compliance Portal. *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.

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

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. In addition to on-campus auditions, the department holds auditions every other year in January in New York and Chicago and attends the URTA auditions in Philadelphia, Chicago and Atlanta. 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.

Courses

Numbered 400-999:

- Dramatic Art (DRAM) (<https://catalog.unc.edu/courses/dram/>)

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

Julia Gibson, Head of M.F.A. Acting

Michael J. Rolleri, Head of Technical Production

Associate Professors

Tracy Bersley, Head of Movement

Gwendolyn Schwinke, Voice and Speech

Assistant Professors

Pam Bond, Costume History

Letitia James, Voice and Speech

Laura Pates, Technical Director

Tao Wang, Lighting and Projection Design, David and Rebecca Pardue Fellow

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

Contact Information

Department of Dramatic Art

Visit Program Website (<http://drama.unc.edu/>)

Chair

Kathryn Williams

khwillia@email.unc.edu

Head of Graduate Studies

Aubrey Snowden

asnowden@email.unc.edu

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.

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). Graduate students can also perform research under the direction of EMES faculty in residence at the department's marine laboratory, the Institute of Marine Sciences (IMS) in Morehead City, which provides coastal access for field studies and instruction. Shared, flexible laboratory space is also available at the Institute.

In addition to the many core facilities on campus, the department maintains research facilities and office space in both Murray-Venable Hall and 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 spectroscopy systems, quadrupole ICP-MS for metal concentrations and lithium isotope analyses; laser particle-size 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.

Courses

Numbered 400-999:

- Earth, Marine, and Environmental Sciences (EMES) (<https://catalog.unc.edu/courses/emes/>)

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 or 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.

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 Ph.D. degree completion include 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

Joel Fodrie
Richard A. Luetlich
Christopher S. Martens
Brent A. McKee
Rachel Noble
Tamlin Pavelsky
Michael Piehler

Professors

Jaye E. Cable
Karl Castillo
Drew S. Coleman
Jonathan Lees
Niels Lindquist
Adrian Marchetti
Laura Moore
Antonio Rodriguez
Harvey Seim
Donna Surge

Associate Professors

Marc J. Alperin
Scott Gifford
Xiaoming Liu
Janet Nye
Johanna Rosman
Alecia Septer
Kevin G. Stewart

Assistant Professors

Sevan Adourian
Isabel Baker
Kennet Flores
John Gardner
Sarah George
Gilby Jepson
Antonia Sebastian

Research Assistant Professors

Nathan Hall
Chao Wang

Teaching Associate Professors

Megan Plenge

Professors Emeriti

Dan Albert
John M. Bane Jr.
Larry K. Benninger
Paul D. Fullagar
Allen F. Glazner

Contact Information

Department of Earth, Marine, and Environmental Sciences
Visit Program Website (<https://emes.unc.edu/graduate/>)

Chair

Antonio Rodriguez
abrodrig@email.unc.edu

Associate Chair

Alecia Septer
asepter@email.unc.edu

Business Officer

Jennifer Parker
jstacey@email.unc.edu

Director of Graduate Studies

Donna Surge
donna64@email.unc.edu

Director of Undergraduate Studies

Scott Gifford
sgifford@email.unc.edu

Director of Graduate Admissions

Johanna Rosman
jrosman@unc.edu

Graduate Student Services Manager

Violet Anderson
vmanders@email.unc.edu

Undergraduate Student Services Manager

Heratia Brelland
heratiab@unc.edu

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/>).

Courses

Numbered 700-999:

- Economics (ECON) (<https://catalog.unc.edu/courses/econ/>)

NOTE: Graduate standing in economics or permission of the director of graduate studies in economics is required for all courses numbered 700 or higher.

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
Karen Ugarte Bravo, Econometrics, Health 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
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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 of 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 License 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).

Courses

Numbered 400-999:

- Education (EDUC) (<https://catalog.unc.edu/courses/educ/>)
- Experienced Teacher Education (EDMX) (<https://catalog.unc.edu/courses/edmx/>)

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 first registration
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 an administrative internship for 10 months or 500 hours
4. Completion of the NC Principal Portfolio Assessment
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.
11. In order to apply and be recommended for an NC superintendent license, students must possess a valid NC principal license.

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. Satisfactory Completion of a Dissertation in Practice (DiP)/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. 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 (6.0 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. Students who complete this track are eligible to apply and be recommended for NC professional licensure, Instructional Technology Specialist.
- *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 Master of Education (M.Ed.) in School Counseling at the UNC School of Education is an intensive, accelerated 14-month program that prepares culturally responsive professionals to serve as K-12 school counselors. The 60-credit program integrates rigorous academic coursework with a year-long, school-based practicum and internship experience.

The curriculum emphasizes a strengths-based, human-centered approach and prepares students to design, implement, and evaluate comprehensive school counseling programs aligned with the American School Counselor Association (ASCA) National Model. Graduates develop the knowledge and skills to support student's academic, career, and social-emotional

development; remove barriers to learning; and advocate for equitable educational environments across diverse school settings.

Through immersive fieldwork, close faculty mentorship, and a collaborative cohort model, students apply theory to practice from the beginning of the program. Graduates are prepared to serve in elementary, middle, and high schools and to contribute meaningfully to school communities.

Completion of the program leads to specialist-level licensure as a K-12 school counselor in North Carolina. The program is approved by the North Carolina Department of Public Instruction and has been continuously accredited by the Council for Accreditation of Counseling and Related Educational Programs (CACREP) since 1984.

Requirements

The M.Ed. in School Counseling requires four consecutive semesters of full-time study (14 months), totaling 60 semester hours. Students begin coursework in late May and complete the program in August of the following year.

Due to the accelerated structure, enrollment is limited to full-time students. Admission occurs once per year, and students may enter only in the summer term.

- 30 credit hours of core content coursework
- 24 credit hours of clinical and field-based coursework
- 6 credit hours of graduate-level electives approved by the student's advisor

Field Experience Requirements

Students complete a year-long, school-based practicum and internship during the K-12 academic year. Field experiences total a minimum of 700 clock hours and include:

- Practicum: Minimum of 100 hours (40 direct service hours)
- Internship: Minimum of 600 hours (240 direct service hours)

Field placements are arranged by the program in partnership with local school districts and may occur in public, charter, or approved private school settings. Students generally complete approximately three full days per week at their assigned site, in coordination with their on-site supervisor and university faculty.

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; and 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. 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, 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. 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 enrolled typically take two courses per semester including fall, spring, and summer, to complete the degree in a 3-year timeframe.

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 provides 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 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 Ph.D. program in policy, leadership, and school improvement (PLS) prepares students to conduct rigorous research into the social, political, and economic conditions affecting schools and to recommend policy solutions that are effective, socially just, and sound. Students in the program are exposed to tools from both quantitative and qualitative methods that equip them with the analytic skills to discern ideological problems. In addition to the core courses of the PhD, PLS students pursue coursework about policymaking, policy implementation, and program evaluation that borrow conceptual and analytic approaches from economics, political science, and sociology. Working collaboratively with faculty who lead their fields in issues related to PK-20 administration, policy, and improvement, PLS students develop research questions and hypotheses, study them in district, state and national settings, and link findings to meaningful practice and improvement.

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
Nianbo Dong
Dorothy Espelage
Jeff Greene
Jill Hamm
Annemarie Hindman
Sherick Hughes
Roger Mills-Koonce
Troy Sadler
Keith Sawyer
Joseph Williams

Associate Professors

Janice Anderson
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Dionne Cross Francis
Christian Ehret
Jocelyn Glazier
Dana Griffin
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Kara Hume
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Yuliana Rodriguez
Christopher Scott

Clinical Assistant Professors

Jemilia Davis
William Dustin Evatt
Emily Halpin
Lewis Hatcher
Bradley Smith
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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.

Courses

Numbered 400-999:

- English (ENGL) (<https://catalog.unc.edu/courses/engl/>)
- Comparative Literature (CMPL) (<https://catalog.unc.edu/courses/cmpl/>)

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 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 Thraillkill, 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

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Department of English and Comparative Literature

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Director of Graduate Studies

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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/>).

Courses

Numbered 400-999:

- Environment and Ecology (ENEC) (<https://catalog.unc.edu/courses/enec/>)

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)

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Curriculum for the Environment and Ecology
Visit Program Website (<https://e3p.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/departement-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/>).

Courses

Numbered 400-999:

- Environmental Sciences and Engineering (ENVR) (<https://catalog.unc.edu/courses/envr/>)

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	Foundations of 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 Exemption is possible under certain circumstances as described on the Gillings How to Apply for a SPHG 600 Exemption page (<https://sph.unc.edu/students/how-to-apply-for-a-sphg-600-exemption/>).

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 (Research Skill Competency Review) (MS Competency 5 (<https://sph.unc.edu/ese-course-competencies/>))

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	Foundations of 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 Exemption is possible under certain circumstances as described on the Gillings How to Apply for a SPHG 600 Exemption page (<https://sph.unc.edu/students/how-to-apply-for-a-sphg-600-exemption/>).

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 All MSEE students should register for and attend section 3 of ENVR 992 (ENVR 992.003).

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 543	Risk, Data Science and AI	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/](https://sph.unc.edu/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	Foundations of Public Health ¹	3
Core Courses		
ENVR 400	Seminar Series (1 credit per semester, for a total of 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 Exemption is possible under certain circumstances as described on the Gillings How to Apply for a SPHG 600 Exemption page (<https://sph.unc.edu/students/how-to-apply-for-a-sphg-600-exemption/>).

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. 26) 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 (<https://sph.unc.edu/ese-course-competencies/>))
- Doctoral Research Presentation (Research Presentation to ENVR 400 Audience; PhD Competency 5)

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; 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. Luetlich 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

Noah Kittner (131), Energy Systems Analysis, Sustainability Science, Energy and Environmental Policy

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

Musa Manga (5), Environmental Engineering, Water, Sanitation, Water Resource Management

Anna Young (54), Chemical Exposome, Multi-Omics Data Science, Reproductive Epidemiology, Women's Health and Menstrual Health, Endocrine-Disrupting Chemicals, Exposure Science

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

Yash Amonkar, Environmental Financial Risk Modeling, Environmental Engineering, Insurance Innovation, Data Science

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

Ilona Jaspers, Environmental Toxicology, Environmental Medicine, Asthma and Lung Biology

Marc Jeuland, Sustainability, Climate Resilience, Water and Health, Environmental Health Cost-Benefit Analysis

Urmila Kodavanti, Toxicology, Environmental Exposure Assessment, Health Effects

Valeria Ochoa-Herrera, Biological and Physico-Chemical Wastewater Treatment, Bioremediation, Biotechnology, Sustainability

Stephanie Padilla, Biomolecular and Computational Toxicology

Hans W. Paerl (65), Aquatic Microbial Ecology, Marine and Freshwater Nutrient Cycling

Grace Patlewicz, Toxicology, Computational Modeling, Environmental Chemistry

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

James M. Samet (67), Mechanistic Toxicology, Cardiopulmonary Toxicology, Ambient Air Pollutants

Manish Kumar Shrivastava, Atmospheric Chemistry, Secondary Organic Aerosols, Earth Systems Modeling, Climate and Health Impacts

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

Cavin Ward-Caviness, Toxicology, Epidemiology, Exposure Science, Biological Chemistry, Computational Biology

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

P. Ozge Kaplan, Energy Systems Modeling, Climate Policy, Environmental Economics

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

Anne Weaver, Environmental Health Effects, Epidemiology

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

Sara Duncan, Environmental Exposure, Indoor Air, Occupational Exposure

Alexander S. Gorzalski, Water Treatment Engineering, Remediation, Disinfection By-Products, Membranes

Crystal Lee Pow Jackson, Occupational and Environmental Epidemiology

Jordan Kern, Environmental Modeling, Systems Analysis, Financial Risk Management

Yong Ho Kim, Cardiopulmonary and Immunotoxicology, Air Pollution Chemistry, Health Effects

Lucas Rocha Melogno, Environmental Health Science, Policy Translation

Cassandra O'Lenick, Environmental Epidemiology

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

Rich Kamens

Pete Kolsky

Donald T. Lauria

David Leith

David H. Moreau

Mark S. Shuman

Howard Weinberg

Stephen C. Whalen

Donald Willhoit

Clinical Professor Emeritus

Donald E. Francisco

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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 (p. 41) is sponsored by the Department of Epidemiology. The program is specifically designed for working practitioners and emphasizes practical, applied skills.

Courses

Numbered 600-999:

- Epidemiology (EPID) (<https://catalog.unc.edu/courses/epid/>)

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 and online, 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 or BIOS 600	Data Analysis for Public Health Principles of Statistical Inference	2
SPHG 712 or EPID 600	Methods and Measures for Public Health Practice Principles of Epidemiology for Public Health	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 716	Epidemiologic Data Analysis	3
EPID 750	Fundamentals of Public Health Surveillance	3
EPID 759	Methods in Field Epidemiology	3
EPID 795	Data in Public Health	3
M.P.H. Electives		
Electives (Graduate-level courses, 400+ level at Gillings, 500+ level at UNC); 9 credit hours minimum		9
M.P.H. Culminating Experience		
EPID 992 or SPHG 992	Master's (Non-Thesis) 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. 26) 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	Foundations of Public Health ¹	3
Core Courses		
EPID 700	Foundations of Scientific Reasoning in Epidemiology	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. This requirement may be met by any upper-level BIOS course (>663 and <800). Other approved options are: ³		3
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	Methods in Environmental Epidemiology	3
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	3
EPID 851	Reproductive and Perinatal Epidemiology	3
EPID 853	Advanced Research Methods for Reproductive, 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
Cancer		
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

Code	Title	Hours
Cardiovascular		
EPID 735	Cardiovascular Epidemiology	3
EPID 738A	Methods and Applications of Cardiovascular Disease Surveillance	1
EPID 738B	Epidemiology of Stroke	1
EPID 810	Physical Activity Epidemiology and Public Health	3
EPID 814	Obesity Epidemiology	3
EPID 818	Analytical Methods in Nutritional Epidemiology	3
EPID 889	Topics in Epidemiology Seminar	1
EPID 897	Advanced Seminar in Cardiovascular Research	1-3

Code	Title	Hours
Environmental		
EPID 785	Environmental Epidemiology	3
EPID 787	Methods in Environmental Epidemiology	3

Code	Title	Hours
Injury		
EPID 625	Injury as a Public Health Problem	3
EPID 626	Violence as a Public Health Problem	3

Code	Title	Hours
Infectious Disease		
EPID 750	Fundamentals of Public Health Surveillance	3
EPID 751	Biological Basis of Infectious Disease Epidemiology	3
EPID 754	Advanced Methods in Infectious Disease Epidemiology	3
EPID 755	Introduction to Infectious Disease Epidemiology	3
EPID 756	Introduction to Infectious Disease Modeling and Simulation in R	1
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

Code	Title	Hours
Pharmacoepidemiology		
EPID 765	Methods and Issues in Pharmacoepidemiology	3
EPID 766	Epidemiologic Research with Healthcare Databases	3
EPID 893	Pharmacoepidemiology Seminar	1

Code	Title	Hours
RPPE		
EPID 851	Reproductive and Perinatal Epidemiology	3
EPID 853	Advanced Research Methods for Reproductive, Perinatal and Pediatric Epidemiology	2

Code	Title	Hours
Social		
EPID 826	Introduction to Social Epidemiology	2
EPID 827	Social Theories for Epidemiologic Research	3

Code	Title	Hours
Other		
EPID 743	Genetic Epidemiology: Methods and Applications	3
EPID 790	Intervention Epidemiology	2

Milestones

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 26) 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

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

Stephen R. Cole, (225), Methodology, Infectious Disease Epidemiology

Michael Emch (234), Spatial Epidemiology, Medical Geography, Infectious Diseases, Neighborhoods and Health
Bradley Gaynes, Psychiatric Epidemiology
Jonathan Juliano, Molecular Epidemiology and Genetics of Malaria
David M. Margolis (220), Infectious Disease Epidemiology
Robert S. Sandler (73), Cancer Epidemiology, Gastrointestinal 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
Jessie Buckley (261), Environmental 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
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
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 Edwards (247), Infectious Disease Epidemiology, Methodology, Global Health
Shakia Hardy (262), Cardiovascular Epidemiology, Social Epidemiology
Michele Jönsson Funk (216), Pharmacoepidemiology, Women's Health
Chantel Martin (250), Social Epidemiology
Evan Mayo-Wilson (258), Pharmacoepidemiology
Kimberly A. Powers (237), Infectious Disease Epidemiology, Global Health
Shabbar Ranapurwala (254), Injury Epidemiology
Jaime Slaughter-Acey (264), Social Epidemiology, Maternal and Child Health Epidemiology
Caroline Thompson (253), Cancer Epidemiology

Assistant Professors

Ganga Bey (263), Social Epidemiology
Eboneé Butler (256), Cancer Epidemiology
Marc Emerson (251), Cancer Epidemiology
Lisa Gralinski (260), Public Health Virology, Infectious Disease Epidemiology

Elizabeth McClure (265), Perinatal Epidemiology
Timothy Sheahan (259), 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

Research Assistant Professors

Christopher Baggett, Chronic Disease Epidemiology
Sara Berkeley, Cardiovascular 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
Joseph Lemaitre, Infectious Disease
Carl Pearson, Infectious Disease
Xiangji Ying, Methodology and Evidence Synthesis
Paul Zivich, Infectious Disease

Clinical Professors

David F. Ransohoff (160), Health Care Epidemiology
Ross Simpson Jr., Cardiovascular Epidemiology, Clinical Epidemiology
Ronald Strauss, Dental Epidemiology, Social Impacts

Clinical Associate Professors

Anissa Vines (245), Social Epidemiology, Health Care Epidemiology

Teaching Professors

Karin Yeatts, Applied Epidemiology, Environmental Epidemiology

Adjunct Professors

Allison Aiello, Social Epidemiology, Infectious Disease Epidemiology
Donna D. Baird, Reproductive Epidemiology
Florence Bodeau-Livinec, Perinatal and Pediatric 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, Cardiovascular Epidemiology, Physical Activity
Kelly Ferguson, Reproductive Epidemiology, Environmental Epidemiology
Aaron Fleischauer, Applied Epidemiology, Surveillance, Preparedness and Response
Robert Fletcher, Health Care Epidemiology
Alicia Gilseman, Pharmacoepidemiology
Cynthia Gorman, Pharmacoepidemiology
Laura Hanson, Clinical Epidemiology, Geriatrics
Louise Henderson, Health Services Research, Cancer Epidemiology
Jane Hoppin, Environmental Epidemiology
Cathrine Hoyo, Cancer Epidemiology
David Huang, Cardiovascular Epidemiology
Theresa Hyslop, Cancer Epidemiology, Social Epidemiology
Michael Kappelman, Clinical Epidemiology, Pharmacoepidemiology
Jay Kaufman, Methodology, Social Epidemiology
Stephen Kritchevsky, Aging Epidemiology
Stephanie London, Cancer Epidemiology
Thomas Luben, Environmental Epidemiology, Adverse Reproductive Outcomes
Timothy Mastro, Infectious Disease Epidemiology
Prema Menezes, Infectious Disease Epidemiology
Amanda Nelson, Osteoarthritis
Matthew E Nielsen, Clinical Epidemiology and Health Services, Cancer Outcomes
Kari North, Cardiovascular Epidemiology, Genetic Epidemiology
Andrew F. Olshan, Cancer Epidemiology, Reproductive/Perinatal Epidemiology
David Peden, Environmental and Occupational Epidemiology
Miquel Porta, Cancer Epidemiology, Clinical Epidemiology, Pharmacoepidemiology
David Richardson, Cancer Epidemiology, Environmental Epidemiology
David Rosen, Social Epidemiology, Criminal Justice/Incarceration
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
Steve M. Taylor, Malaria, Tropical Disease Epidemiology, Hemoglobin Disorders
John Thorp Jr., Reproductive Epidemiology
Hugh H. Tilson, Pharmacoepidemiology
Emily Vavalle, Infectious Disease Epidemiology
Anthony J. Viera, Hypertension, Cardiovascular Disease Prevention
Emmanuel Walter, Infectious Disease Epidemiology
Clarice Weinberg, Environmental and Reproductive Epidemiology
Allen J. Wilcox, Reproductive Epidemiology
David Wohl, Infectious Disease Epidemiology

Adjunct Associate Professors

Lorraine Alexander, Public Health Preparedness, Distance Education

Deverick Anderson, Health Care Epidemiology, Infection Prevention
Patricia Basta, Cancer Epidemiology
Kimón 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
Anne Jukic, Reproductive Epidemiology
James Bradley Layton, Pharmacoepidemiology, Comparative Effectiveness Research
Le Giang, Infectious Disease Epidemiology, Mental Health
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
Whitney Robinson, Cancer
Poojan Shrestha, Genetic Epidemiology
Xuezheng Sun, Cancer Epidemiology
Vani Vannappagari, Infectious Disease Epidemiology
Catherine Vladutiu, Perinatal Epidemiology, Injury Epidemiology, Cardiovascular Epidemiology
Timothy Wade, Environmental Epidemiology
Sharon S. Weir, Infectious Disease Epidemiology
Kristin Young, Genetic Epidemiology, Health Disparities, Obesity Epidemiology

Adjunct Assistant Professors

Emily Bratton, Infectious Disease Epidemiology, Pharmacoepidemiology, Cancer Epidemiology
Alexander Breskin, Epidemiologic Methods, Pharmacoepidemiology, HIV
Remy Coeytaux, Health Care Epidemiology
Payal Chakraborty, Social Epidemiology
Jennifer Deese, Infectious Disease, Epidemiology
Ming Ding, Cardiovascular 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
Heather Highland, Genetic Epidemiology
Juan Hincapié-Castillo, Pharmacoepidemiology, Legal
Jessica Islam, Cancer
Chandra Jackson, Social and Environmental Determinants of Health Equity
Hoa Le, Pharmacoepidemiology, Cancer, Infectious Disease Epidemiology
Sara Levintow, Infectious Disease Epidemiology, Methodology
James Lewis, Infectious Disease Epidemiology
Ann M. McNeill, Cardiovascular Epidemiology
Keri Monda, Genetics, Obesity Epidemiology
Sarah Nyante, Cancer Epidemiology, Molecular Epidemiology
Priya Palta, Cardiovascular Epidemiology, Aging
Scott Proescholdbell, Injury Epidemiology
Kristen Rappazzo, Environmental Epidemiology
Leah Sadinski, Infectious Disease, Pharmacoepidemiology, Cardiovascular Epidemiology

Erika Samoff, Infectious Disease Epidemiology
Melissa Stockton, Social Epidemiology
Michael Udedi, Global Mental Health Research
Nadja Vielot, Infectious Disease, Global Health
Andres Villaveces, Injury Epidemiology
Tiansheng Wang, Pharmacoepidemiology
Rachel E. Williams, Health Care Epidemiology

Adjunct Instructor

Lauren DiBiase, Infectious Disease
Amy Ising, Public Health Informatics, Public Health Surveillance,
Syndromic Surveillance

Professors Emeriti

Wilfrida Behets
Charles Poole
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
mfgallo@unc.edu

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 three areas: exercise physiology, kinesiology, 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, kinesiology, 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

All 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 all 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.

Courses

Numbered 400-999:

- Exercise and Sport Science (EXSS) (<https://catalog.unc.edu/courses/exss/>)

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 three areas of specialization: exercise physiology, kinesiology, 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 and kinesiology 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.

Kinesiology

The mission of the kinesiology specialization is to prepare graduate students to pursue careers in kinesiology related fields, the general biomedical or health industry, and careers in the sport science industry. Students will complete advanced coursework in data science applications, research design and statistics, as well as flexibility in electives to meet their desired goals within the kinesiology fields. The program offers courses, exposure, and learning opportunities connected

to biomechanics, human performance, sport science analytics, sport and exercise psychology, and neuromuscular control to name a few.

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.

Professors

Claudio L. Battaglini
J. Troy Blackburn
Kristen L. Kucera
Jason P. Mihalik
Barbara Osborne
Darin A. Padua
Brian G. Pietrosimone
Nels K. Popp
Johna Register-Mihalik
Eric D. Ryan
Abbie E. Smith-Ryan
Erianne A. Weight
Erik A. Wikstrom

Associate Professors

Erik D. Hanson
Zachary Yukio Kerr

Adam W. Kiefer

Assistant Professors

Shelby E. Baez
Malia Blue
Sydney Churchill
Jimikaye B. Courtney
Hyosok Lim, Colin Lopez
Derek Monroe
Jessica R. Murfree
Jackson Sears

Teaching Professors

Alain J. Aguilar
Meredith A. Petschauer

Teaching Associate Professors

J.D. DeFreese
Kristin S. Ondrak
Anthony F. Patterson
Angela N. Pratt

Teaching Assistant Professors

Rebecca L. Battaglini
Gena R. Gerstner
Chelsea C. Meyers
Aliza K. Nedimyer
Olufemi Oluyedun
Dylan Steen

Research Associate Professor

Wesley R. Cole

Postdoctoral Research Associates

Beth Bacon
Paul Baker
Dan Corry
Sergio Lemus
Hanah Marmura
Hayley Smitheman
Jeb Struder

Professors Emeriti

M. Deborah Bialeschki
John E. Billing
A. C. Hackney
Bonita L. Marks
Robert G. McMurray
Frederick O. Mueller
Frank Pleasants
William E. Prentice
Edgar Shield
John M. Silva

Teaching Professor Emerita

Sherry Salyer

Adjunct Professors

David J. Berkoff
Patrick Depenbrock
Kevin M. Guskiewicz
Chris Ingersoll
Shawn Kane
Micheal D. Lewek (joint appointment)
Stephen W. Marshall
Karen L. McCulloch
Bill Romani
Todd Schwartz

Adjunct Assistant Professors

Avinash Chandran
Cortney Lago
Michael Mazzoleni

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, epigenetics & chromatin biology, 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.

Courses

Numbered 600-999:

- Genetics and Molecular Biology (GNET) (<https://catalog.unc.edu/courses/gnet/>)

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	4
GNET 631	Advanced Molecular Biology	4
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 2 or more.¹ 2

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 Dissertation² 6

Minimum Hours³ **44**

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	Critical Thinking in Science: From Hypothesis to Grant Proposal	
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/LINUX for Biomedical Researchers	
GNET 747	Next Generation Sequencing: Systems and Applications	
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. 26) 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 Cook, Integrating DNA Replication Control with Checkpoint Signaling

Gregory P. Copenhagen, Regulation of Meiotic Recombination in Higher Eukaryotes

Blossom Damania, Viral Oncogenes, Signal Transduction, Transcription and Immune Evasion of KSHV/RRV

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

Samir Kelada, Genetics and Genomics of Environmentally Induced Asthma

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

Bernard Weissman

Jason Whitmire, Genetic Regulation of T Cell Responses to Virus Infection

Sam Young

Associate Professors

Michael Bressan

Edward Browne

J. Mauro Calabrese, Epigenetic Control by Long Noncoding RNAs, Genomics, Stem Cells, Cancer, Human Genetic Disorders

Jill Downen, 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

Brent Hanks

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

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

Jonathan Parr, Molecular Epidemiology and Evolution of Infectious Diseases

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

Steve Rogers

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)

jilldownen@unc.edu

Past Director of Graduate Studies

Jeff Sekelsky

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Student Services Manager

John Cornett

jcornett@email.unc.edu

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 Downen, 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

Wonho Kim

Laura Lee

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

Benjamin Parker

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

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 Downen

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.

Courses

Numbered 400-999:

- Geography and Environment (GEOG) (<https://catalog.unc.edu/courses/geog/>)

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 Gökarişel (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

Chérie Rivers (47), Black Geographies, Decolonial Praxes, Indigeneity and Sustainable Farming, Black Atlantic World

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

Assistant Professors

Amanda Gay DelVecchia (49), Freshwater Ecology, Biogeochemistry, Watershed Science, Groundwater – Surface Water Exchange

Anthony Dest (54), Latin America, Capitalism, Ethnography, Racism, Social Movement Theory, State Formation

Maliheh Ghajargar (53), Human-Environment Interaction, Sustainability, and Human-AI Creative Interaction

Ruth Matamoreos-Mercado (51), 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

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. Kopeck

Thomas M. Whitmore

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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nphillip@email.unc.edu

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.)

Courses

Numbered 400-999:

- Bosnian-Croatian-Serbian (BCS) (<https://catalog.unc.edu/courses/bcs/>)
- Czech (CZCH) (<https://catalog.unc.edu/courses/czch/>)
- Duke German Studies Courses (<https://registrar.duke.edu/registration/course-catalog-schedule-classes/>)
- Dutch (DTCH) (<https://catalog.unc.edu/courses/dtch/>)
- German (GERM) (<https://catalog.unc.edu/courses/germ/>)
- Hungarian (HUNG) (<https://catalog.unc.edu/courses/hung/>)
- Macedonian (MACD) (<https://catalog.unc.edu/courses/macd/>)
- Polish (PLSH) (<https://catalog.unc.edu/courses/plsh/>)
- Russian (RUSS) (<https://catalog.unc.edu/courses/russ/>)
- Slavic Languages (SLAV) (<https://catalog.unc.edu/courses/slav/>)

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 gsl@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 Framework 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

Associate Professors

Kata Gellen (1) (Duke), German Modernism, Austrian Literature, German-Jewish Studies

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 Bahadır 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-gardes, 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)

David Pike (UNC)

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

Kirill Tolpygo

Professors Emeriti

Madeline G. Levine

Hana Pichova

Peter Sherwood

Associate Professors Emeriti

Lawrence Feinberg

Christopher R. Putney

Ivana Vuletic

Contact Information

Department of Germanic and Slavic Languages and Literatures

Visit Program Website (<https://gsll.unc.edu/>)

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Chair

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UNC Director of Graduate Studies

Aleksandra Prica

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Duke Director of Graduate Studies

Sarah Pourciau

sarah.pourciau@duke.edu

Administrative Manager

Valerie Bernhardt

gsll@unc.edu

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; movement of people; culture and literature; the diffusion of, and clashes over, political and social norms; and 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

Courses

Numbered 400-999:

- Global Studies (GLBL) (<https://catalog.unc.edu/courses/glbl/>)

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

Chad Bryant, History
Renée Alexander Craft, Communication
Mark Driscoll, Asian Studies
Banu Gökarişel, Geography
Liesbet Hooghe, Political Science
Elizabeth Olson, Geography
John Pickles, Geography
Graeme Robertson, Political Science
Meenu Tewari, City and Regional Planning
Michael Tsin, History
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

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

Contact Information

Curriculum in Global Studies

Visit Program Website (<http://globalstudies.unc.edu>)
301 Pittsboro Street, FedEx Global Education Center, Suite 2200

Chair

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Director of Graduate Studies

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Student Services Manager

Sidar Sahin
sahin@unc.edu

Business Officer

Sophia Brown
Sobro@unc.edu

SCHOOL OF GOVERNMENT (GRAD)

The UNC Master of Public Administration (M.P.A.) program is a nationally ranked degree available both on campus and online. Our graduates go on to lead government, nonprofit, and mission-driven organizations, strengthening institutions, advancing communities, and improving lives through effective public service.

Housed within the UNC School of Government, the nation's largest university-based training, advisory, and research organization for public officials, the M.P.A. program provides students with direct access to expert faculty engaged daily with local and state governments across North Carolina and beyond. Faculty bring these real-world experiences back into the classroom, where students gain hands-on opportunities to analyze and navigate the complex, interdisciplinary challenges they will encounter throughout their public service careers.

To learn more about our top-ranked, flexible public service leadership degree, please see the program website (<http://www.mpa.unc.edu/>).

Admission Requirements

All M.P.A. admission requirements can be found on the program website (<https://mpa.unc.edu/>).

Courses

- Public Administration (PUBA) (<https://catalog.unc.edu/courses/pub/>)

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 Professional Work Experience (practicum), a thesis substitute, 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 and Management	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	Governing Across Boundaries: Intergovernmental and Cross-Sector Collaboration	3
PUBA 740	Modeling for 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. 26) 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 encouraged 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

Taylor Morris, Public Law and Government

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

Catherine Wilson, Public Law 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

Dylan Russell, Public Administration and Government

Amy Wade, Albert and Gladys Coates Term Professorship of Public Administration and Government

Adjunct and Visiting Faculty

Aida Ali Akreyi

Monica Allen

Evans Ballard

Justin Barbaree

Blossom Barrett

Alexandra Bartz

Kristen Brugh

Christopher Cody

John Crumpton

Ana-Laura Diaz

Heather Drennan

Sharon Edmundson

Tara Lynne Fikes

Clay Flemming

Jennifer Heckscher

Mary Hemphill

Katie Loovis

Emily McCartha

Tracy Miles

John Quinterno

James Robinson

Dale Roenigk

Sarah Towne

Micheal Welker

Joylea Wilkins

Contact Information

School of Government

Visit Program Website (<http://www.sog.unc.edu>)

Dean

Aimee N. Wall

M.P.A. Program Director

Willow Jacobson

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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 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.

Courses

Numbered 400-999:

- Health Behavior (HBEH) (<https://catalog.unc.edu/courses/hbeh/>)

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, foster social justice and reduce health inequities 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 or BIOS 600	Data Analysis for Public Health Principles of Statistical Inference	2
SPHG 712 or EPID 600	Methods and Measures for Public Health Practice Principles of Epidemiology for Public Health	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 746	Community-Led Capstone Project	3
HBEH 750	Interpreting Health Behavior Research	2

HBEH 752	Health Behavior Survey Methods	2
HBEH 753	Qualitative Methods in Health Behavior	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 credit hours minimum		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

Students in the interdisciplinary Health Equity and Social Justice (EQUITY) (<https://sph.unc.edu/resource-pages/master-of-public-health/health-equity-and-social-justice/>) concentration will develop skills to improve population health through measuring, identifying, and intervening to eliminate health inequities and advance social justice. Students will develop an in-depth understanding of structural inequities and gain practice in assessing and devising solutions to address key health determinants. Students also will gain experience in community-centered approaches to public health practice and research.

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 or BIOS 600	Data Analysis for Public Health Principles of Statistical Inference	2
SPHG 712 or EPID 600	Methods and Measures for Public Health Practice Principles of Epidemiology for Public Health	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 784	Community-Driven Research and Environmental Justice	3
EPID 826	Introduction to Social Epidemiology	2
HBEH 690	Special Topics in Health Behavior (Translating Health Equity Methods into Practice)	1-3
HBEH 700	Leading for Health Equity	3
HBEH 720	Health Equity Methods	3
HBEH 746	Community-Led Capstone Project	3

M.P.H. Electives		
Electives (Graduate-level courses, 400+ level at Gillings, 500+ level at UNC); 9 credit hours minimum		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.) – Global Health Concentration

Our signature philosophy is that there is no difference between global health and public health. 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 development, implementation, and evaluation of public health programs and projects that are aligned with diverse

cultures, 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 CFK Africa 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 or BIOS 600	Data Analysis for Public Health Principles of Statistical Inference	2
SPHG 712 or EPID 600	Methods and Measures for Public Health Practice Principles of Epidemiology for Public Health	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 779	Project Management and Implementation	3
HBEH 780	Mixed Methods for Global Health	3
HBEH 782	Professional Development for Global Health	1
MHCH 723	Monitoring and Evaluation of Global Health Programs	3
MHCH 780	Cultural Humility	2
PUBH 711	Critical Issues in Global Health	3
M.P.H. Electives		
Electives (Graduate-level courses, 400+ level at Gillings, 500+ level at UNC); 9 credit hours minimum		9
M.P.H. Culminating Experience		
ENVR 992	Master's Technical Report	3

or SPHG 992 Master's (Non-Thesis)

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. 26) 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

Melissa Gilkey, Adolescent Health, Cancer Prevention, Health Services Research, Barriers to Vaccination

Vivian Go, Global Health, Opiates, HIV/AIDS, Sexually Transmitted Diseases, Substance Abuse, Violence Prevention

Shelley Golden, Public Policies and Health Behavior, Tobacco Policy, Place-Based Health

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

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

Melissa Cox, Adolescent Health, Alcohol Use, Place-Based Health

Carolyn Crump, Worksite Health Promotion and Evaluation, Program Planning, Management

Marissa Hall, Cancer Prevention Policy, Chronic Disease, Obesity Prevention

Lauren Hill, HIV/AIDS, Global Health

Larissa Jennings Mayo-Wilson, Adolescent Health, Sexual and Reproductive Health, Economic/Mobile Health Interventions

Megan Ellenson Landfried, Community Engagement, Culturally Relevant Interventions

Alexandra Lightfoot, Community-Based Participatory Research, Health Disparities, Healthy Choices and Behaviors to Support the Growth and Development of Youth, Educational Inequities

Sarah Mills, Racial/Ethnic and Socioeconomic Disparities in Tobacco Use, Tobacco-Related Disease

K. Elizabeth (Beth) Moracco, Women's Health, Violence Against Women, Evaluation Research

Patsy Polston, Community Engagement, Health Inequities

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

Dane Emmerling, Pedagogy, Health Equity

Yesenia Merino, Health Equity, Community Engagement, Pedagogy

Natalicio Serrano, Physical Activity, Neighborhood Environments, Health Equity

Deshira Wallace, Cardiovascular Disease, Type 2 Diabetes, U.S. Latin and Latin American Health

Adjunct Professors

Delesha Carpenter, Chronic Disease Self-Management, Patient-Provider Communication, Social Support

Edwin Fisher, Social Support, Mental Health

Kristie Foley

Vangie Foshee, Adolescent Violence Prevention

Adam Goldstein, Tobacco Intervention

Carol Golin, HIV

Nisha C. Gottfredson O'Shea, Substance Use

Jim Herrington

Phan Thi Thu Huong

Shawn Kneipp, Health of Disadvantaged Populations; Welfare Policy, Employment, and Women's Health

Leslie Lytle, Diet and Nutrition

Tonia Poteat, HIV, LGBTQ Health

Kurt Ribisl, Tobacco Control Policy, Built Environment and Health, Cancer Prevention and Control

Carol Runyan, Injury Control, Violence Prevention, Worksite Injury Prevention

Paschal Sheeran, Social Psychology, Health Behavior Change

Arjumand Siddiqi, Social Epidemiology, Children's Health and Development, Social Policy and Health

Celette Skinner, Cancer Screening, Cancer Genetics, Tailored Interventions

Deborah Stroman, Diversity and Inclusion, Sport Business, Entrepreneurship, Marketing, Leadership Development

Adjunct Associate Professors

Stephanie Baker, Racial Inequities in Cancer Care Treatment

Johanna Birckmayer, Health Policy, Tobacco Control

Felicia Browne, HIV Behavioral Intervention

M. Justin Byron, Health Communication, Tobacco Control

Susan Gaylord, Alternative Therapies and Integrative Health Care, Aging, Health Beliefs and Care Pathways

Jennifer Gierisch, Cancer Prevention/Control, Health Communication, Chronic Disease Management, Mental Health, Tobacco Use Prevention/Control, Women's Health

Abigail Hatcher, Violence Prevention, Mental Health

Andrea Knittel

Manish Kumar

Kathryn Lancaster

Kathryn Pollak, Patient-Physician Communication, Smoking Cessation, Health Disparities

Wizdom Powell, Men's Health, Population Health Disparities, Social and Health Behavior Theory

Brian Southwell, Health Communication

Anna Waller, Injury Prevention and Control, Data System Users (especially Database Design), Emergency Department Data and Surveillance

Adjunct Assistant Professors

Deborah Baron, Global Health

Betsy Barton

Becca Bender

Amrita Bhowmick, Health Care Marketing

Maribel Borger

Marcy Boynton, Novel Applications of Intensive Repeated Measures Designs, Health Communication, Effect of Stress and Coping Processes on Health Decision-Making

Stacey Cutbush Starseed

Dirk Davis

Venita Embry, Violence Prevention

Vichi Jagannathan, Adverse Childhood Experiences, Design Thinking

Maija Leiff, Carolina Collaborative for Research on Work and Health (CCRWH)

Christina Leos

Kathleen MacQueen, Social, Behavioral, and Ethical Aspects of Biomedical HIV Prevention Trials; Vaccines, Microbicides and PrEP

Emily Mangone

Derrick Matthews

David McCoy, American Indian Health, Health Care of Rural and Minority Populations, Budgetary and Policy Aspects of the Delivery of Health Care

Kyle McQuillan

Allison Myers, Tobacco Control, Public Health Policy, Health Equity

Robert Pleasants, Injury Prevention and Control

Tara Licciardello Queen, Tobacco Control, Quantitative Analysis

English Sall, Organizational Development and Metrics and Evaluation for Social Impact and Humanitarian Aid

Kevin Smith

Pamela Trangenstein, Alcohol Use, Place-Based Health

Tran Viet Ha

Naya Villarreal, Global Health

Maihan Vu, Qualitative Research, Adolescent Health, Obesity and Physical Activity

Michael Yonas, Qualitative Research, Participatory Research Approaches, Social Determinants of Health

Susannah Zietz

Adjunct Instructors

Elizabeth French, Patient Advocacy, Professional Development

Sally Herndon, Health Policy, Tobacco Use Prevention/Control

Ingrid Morris, Health Policy, Health Promotion, Obesity Prevention

Allison Pack

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)

Professors Emeriti

Karl Bauman

Brenda DeVellis

Robert DeVellis

Geni Eng

Susan Ennett

John W. Hatch

Elizabeth Mutran

Barbara K. Rimer

Allan Steckler

Contact Information

Department of Health Behavior

Visit Program Website (<http://www.sph.unc.edu/hb/>)

Chair

Suzanne Maman
smaman@unc.edu

Vice Chair for Academic Affairs

Shelley Golden
shelley_golden@unc.edu

Academic Program Support Specialist

Kendall Hubbard
khubb@email.unc.edu

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/mpd-dual-degree-partnerships/>) with the School of Social Work, Department of City and Regional Planning, Eshelman School of Pharmacy and Law School.

Certificate Program in Community Preparedness and Disaster Management

The professional certificate program in community preparedness and disaster management (p. 35) 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.

Graduate students who are interested in taking all three certificate courses and earning the CPDM certificate must apply here: <https://applynow.unc.edu/apply/>

Courses

Numbered 400-999:

- Health Policy and Management (HPM) (<https://catalog.unc.edu/courses/hpm/>)

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	Foundations of Public Health ¹	3
Core Courses		
HPM 601	Issues in Health Care	1
HPM 671	Statistical Methods for Health Policy and Management ⁵	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 ⁴	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 ⁶	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.

⁴ HPM 710 can be substituted with HPM 510.

⁵ HPM 671 can be substituted with BIOS 600.

⁶ HPM 742 can be substituted with MBA 771 AND MBA 772.

Milestones

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 26) 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 760	Healthcare Quality and Information Management	3
HPM 770	Operations Research for Healthcare Systems	3

Electives

Three credits of remote HPM electives required.	3

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. 26) 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.

Course Requirements

Code	Title	Hours
Core Courses		
SPHG 600	Foundations of Public Health	3
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 749	Data Visualization	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	3
HPM 793	Health Policy and Management Internship	2
HPM 880	Principles of Health Policy Research Methods	3
HPM 881	Introduction to Applied Methods in Health Services Research	3
HPM 882	Advanced Methodology in Health Services Research	3
HPM 884	Overview of Health Services Research/Health Policy	3
HPM 885	Health Services/Health Policy Research Methods	3
HPM 886	Qualitative and Mixed Methods Designs	3
Electives		
5 total graduate-level elective credit hours required. Selected in consultation with Faculty Mentor.		5
Thesis/Substitute or Dissertation		
HPM 992	Master's (Non-Thesis)	3
Minimum Hours		47

¹ These 1-credit courses do not count towards the 47 hours needed to graduate.

Milestones

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 26) 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 or BIOS 600	Data Analysis for Public Health Principles of Statistical Inference	2
SPHG 712 or EPID 600	Methods and Measures for Public Health Practice Principles of Epidemiology for Public Health	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 730	Leadership and Workforce Management Strategies	3
HPM 745	Financial Management and Analysis for Public and Nonprofit Entities	3
HPM 754	Health Care in the United States Structure and Policy	3
HPM 758	Underserved Populations and Health Reform	3
HPM 790	Advanced Health Policy Analysis and Advocacy	3
M.P.H. Electives		
Electives (Graduate-level courses, 400+ level at Gillings, 500+ level at UNC); 9 credit hours minimum		9
M.P.H. Culminating Experience		
HPM 992 or SPHG 992	Master's (Non-Thesis) 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 or EPID 710	Principles of Epidemiology for Public Health Fundamentals of Epidemiology	
HPM 754	Health Care in the United States Structure and Policy	
SPHG 600	Foundations of 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	Qualitative and Mixed Methods Designs	3
Analytical Methods		
HPM 880	Principles of Health Policy Research Methods	3
HPM 881	Introduction to Applied Methods in Health Services Research	3
HPM 882	Advanced Methodology in Health Services Research	3
HPM 883	Applied Methods in Health Services Research	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	Improving Healthcare Quality for All: Applications in 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 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	Improving Healthcare Quality for All: Applications in 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://theweb.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 756	Conceptualizing & Measuring Access to Healthcare	3
HPM 766	Improving Healthcare Quality for All: Applications in 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	Advanced Topics in Implementation Science for Global 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
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. 26) 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	Foundations of Public Health ¹	3
Year 1 Fall		
HPM 820	Organizational Leadership Theory and Practice	2
HPM 860	Population Perspectives for Health and the Research Process	2
HPM 953	Essentials of Practice Based Research	2
HPM 823	Global Health Diplomacy	1
Year 1 Spring		
HPM 974	Program Planning, Implementation and Evaluation	3
HPM 966	Systems Thinking and Collective Impact	2
HPM 759	Health Policy Analysis and Advocacy for Health Leaders	2
Year 1 Summer		
HPM 970	Training and Pedagogy for Health Leaders	1
HPM 810	Leadership in Public Health Law and Ethics	2
HPM 959	Strategic Planning for Public and Non-Profit Organizations	2
Year 2 Fall		
HPM 956	Fundamentals of Research Methods and Analysis	3
HPM 958	Financial Leadership ²	3
HPM 964	Leadership for Effective Implementation	1
Year 2 Spring		
HPM 759	Health Policy Analysis and Advocacy for Health Leaders	2
HPM 968	Managing the Healthcare Workforce	1
HPM 959	Strategic Planning for Public and Non-Profit Organizations	2
HPM 967	Quality Improvement	1
Year 2 Summer		
HPM 940	Leadership in Health Informatics	1
HPM 962	Communicating for Public Health Impact	2

HPM 957	Crisis Leadership	1
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.

² Please note that this course is in the process of being revised; please see program for additional advising.

Milestones

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 26) 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)

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

Lindsey Haynes-Maslow (041), Policies Leading to Healthy Behavior Among Disinvested Communities; Intersection Between Public Health and Nutrition

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

Karl Umble (032), Program Design and Evaluation, Management and Leadership Development in Public Health

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

David Zepeda (059) Operations Management, Statistics, Increasing Healthcare Costs While Decreasing Returns on Improvement of Health Outcomes

Associate Professors

Oscar Fleming (057), Applied Systems Science, Design Thinking, Implementation Science; Capacity of Public Health Workforce to Understand Complex Systems, and Design and Implement Public Health Innovations

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

Erin Kent (012), Epidemiology, Health Services Research, Mixed Methods Research, Community-Based Participatory Research

Arrianna Planey (017), Health/Medical Geography, Measuring Health Care Access, Health Care Equity, Spatial Epidemiology

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

Elizabeth Tomlinson (042), Improving Health Care Experiences for Survivors of Violence, Particularly Those Experiencing Health Disparities Associated with Social Determinants of Health

Kat Tumlinson (053), Population and Global Reproductive Health

Assistant Professors

Sam Baxter (054), Men's Health, Cardiovascular Disease Prevention, Place-Based Disparities

Meghan O'Leary (060), Health Services Research Using Decision Science and Systems Science Methods; Economic Evaluation, System Mapping, Implementation of Evidence-Based Interventions

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

Jessica Simon (061), Using Systems Approaches to Guide Decision Making, Strengthen Public Health Systems, and Advance Health Outcomes; Participatory Systems Science Methods, Systems-Informed Policy and Program Development, and Workforce Capacity Building

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
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

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Bruce Fried
Joan Krause
Jennifer Lafata
Thomas C. Ricketts

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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/#programtext>)
- Clinical Mental Health Counseling, M.S. (p. 114).
- Clinical Rehabilitation Counseling, M.S. (p. 117)
- Human Movement Science, Ph.D. (p. 215)
- Occupational Science and Occupational Therapy, M.S., Ph.D. (p. 259).
- Physician Assistant Studies, M.H.S. (p. 278).
- Physical Therapy, D.P.T.
- Radiologic Science (Radiologist Assistant), M.R.S.
- Speech and Hearing Sciences, M.S., Au.D., Ph.D. (p. 310)

Professors

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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-education/>) 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.

Courses

Numbered 400-999:

- History (HIST) (<https://catalog.unc.edu/courses/hist/>)

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

Jennifer Boittin
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Chad Bryant
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Peter A. Coclanis
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Erik Gellman
Joseph T. Glatthaar
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Raquel Escobar
Camille Goldmon
Jennifer Grayson
Henry Gruber
Antwain Hunter

Teaching Professors

Matthew Andrews
Joseph W. Caddell
Mandy Cooper

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
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Shakierah Clark
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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.)

Courses

Numbered 700-999:

- Human Movement Science (HMSC) (<https://catalog.unc.edu/courses/hmsc/>)

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. 26) 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

Joseph Hart, Neuromuscular Consequences of Joint Injury, Knee Osteoarthritis Prevention

Christopher Ingersoll, Arthrogenic Muscle Inhibition, Muscle Activation

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

Johna Register-Mihalik, Traumatic Brain Injury – Negative Consequences, Prevention, Education and Clinical Management

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

Erik Wikstrom, Impact of Musculoskeletal Injury on Sensorimotor Control of the Lower Extremity, Ankle Joint Injury

Associate Professors

J.D. DeFreese, Athlete Psychological and Physical Health and Social Functioning

Tim Eckard, Risk Factor Identification, Injury Screening Techniques, Military Training Populations

Erik Hanson, Exercise Physiology, Exercise Testing and Training in Clinical Populations, Exercise Oncology and Immunology

Zachary Kerr, Sports Injury Surveillance; Sports-Related Injury Prevention

Adam Kiefer, Performance Enhancement and Injury Prevention in Sport

Michael Lewek, Stroke Rehabilitation; Biomechanics; Neuromuscular Function

Lee Stoner, Interactions Between Lifestyle Behavioral Factors and Cardio-Metabolic Disorders, Assessing Cardio-Metabolic Health, Translation of Basic and Applied Science to Affect Public Health Outcomes

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

Gena Gerstner, First Responder Health, Performance, and Neuromuscular Function

Dana McCarty, High-Risk Infants, Cranial Outcomes, Maternal Mental Health, NICU Accessibility

Derek Monroe, Multimodal Brain Imaging, Traumatic Brain Injury, Brain Aging

Louise Thoma, Optimizing Rehabilitation and Recovery After Orthopedic Injury and Surgery

Affiliated Faculty

Leigh Callahan, Department of Medicine

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

Kevin Guskiewicz, Michigan State University

Anthony C. Hackney, Department of Exercise and Sport Science, Exercise Endocrinology–Stress Physiology

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

Vicki Mercer, Department of Health Sciences

Michelle Meyer, Department of Emergency Medicine

Justin Moore, Wake Forest University

Amanda Nelson, Department of Medicine

Deborah Porterfield, Department of Family Medicine

Contact Information

Human Movement Science Curriculum

Visit Program Website (<http://hmsc.unc.edu>)

Director

Erik Wikstrom

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Associate Director

Mike Lewek

mlewek@med.unc.edu

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/>).

Courses

Numbered 400-999:

- Linguistics (LING) (<https://catalog.unc.edu/courses/ling/>)

NOTE: For Irish and Welsh, see English; for Hebrew, see Religious Studies; for Arabic, Chinese and Japanese, see Asian Studies in the Undergraduate Catalog.

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)	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-Marin (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 Hirotsu, 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

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/mpmh-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/mpmh-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.

Courses

Numbered 600-999:

- Maternal and Child Health (MHCH) (<https://catalog.unc.edu/courses/mhch/>)

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 or BIOS 600	Data Analysis for Public Health Principles of Statistical Inference	2
SPHG 712 or EPID 600	Methods and Measures for Public Health Practice Principles of Epidemiology for Public Health	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 723	Monitoring and Evaluation of Global Health Programs	3
MHCH 728	Introduction to Implementation Research and Practice in Maternal, Child and Family Health	3

M.P.H. Electives

Electives (Graduate-level courses, 400+ level at Gillings, 500+ level at UNC); 9 credit hours minimum

M.P.H. Culminating Experience

MHCH 992	Master's (Non-Thesis)	3
or SPHG 992	Master's (Non-Thesis)	

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 (or DICAS for Nutrition and Dietetics applicants) 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 four areas: core Maternal and Child Health content, research methods, a chosen disciplinary concentration, 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	Foundations of 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
MHCH 804	Special Topics in Maternal and Child Health	1
Two Research Method Courses ³		
Two Analytic Courses ⁴		
MHCH 862	Program Impact Evaluation	3
Disciplinary Concentrations		
Ph.D. students must declare a disciplinary concentration in another department or program in the School of Public Health. Disciplinary concentrations in departments in other Schools can be considered (e.g. Public Policy) but must be approved by the student's faculty advisor and the MCH Vice Chair. 15 hours of coursework in the disciplinary concentration are required.		15
Electives		
A minimum total of 13 elective credit hours required. Must be graduate level courses. Students may not take more than 3 Independent Study credits.		13
Thesis/Substitute or Dissertation		
MHCH 994	Doctoral Research and Dissertation ⁵	6
Minimum Hours		52

¹ Students with a prior public health degree from a CEPH-accredited institution are not required to take SPHG 600; exemptions are available for other students if they can demonstrate that they have completed similar content. Students will need to take equivalent credits in additional courses if they are exempt from SPHG 600. Course credits cannot be made up with dissertation credits. 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. Students will need to take equivalent credits in additional courses if they are exempt from MHCH 701 and MHCH 702. Course credits cannot be made up with dissertation credits. Students should discuss with their Academic Coordinator and Faculty Mentor.

³ All students must complete at least two 3-credit courses in research methods (qualitative, quantitative, or mixed), which can be taken as part of their disciplinary concentration or as elective credits. 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 from the analytic course sequence in their disciplinary concentration. The courses must cover multivariable analysis (e.g. linear regression, non-linear regression etc.) and can be taken as part of the disciplinary concentration credits or as elective credits. The two additional courses must be approved by the student's faculty mentor. There are no minimum credit hour requirements attached to the non-MHCH 862 courses.

⁵ Total number of dissertation hours will vary based on the program. Please consult with your student services manager or DGS.

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 (Internship)

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 Bazzano (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

Bethany Hedt-Gauthier, Health Systems, Building Research Capacity in Resource-Limited Settings, Implementation Science, AI-Enabled Digital Tools, Maternal Health, Surgical Care, Health Equity

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

Janine Barden-O'Fallon (033), Family Planning, Reproductive Health, International Health, Monitoring and Evaluation Methods for Global Health Programs in Developing Countries

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

Christine Tucker (013), Maternal Health, Birth Outcomes, Practice-Based Research and Program Evaluation, Latino Health, Migrant Farmworker Health

Assistant Professors

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

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 Kafritsen, 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

Sherri Green

Carolyn T. Halpern

Jonathan B. Kotch

Lewis Margolis

Sandra L. Martin

Diane Rowley

Contact Information

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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.

Courses

Numbered 400-999:

- Mathematics (MATH) (<https://catalog.unc.edu/courses/math/>)

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
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
Yifei Lou (20), Image Processing, Sparse Signal Recovery, Numerical Analysis and Optimization Algorithms
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
Katherine Newhall (12), Applied Mathematics, Stochastic Differential Equations
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
David Rose (17), Categorification, Low-Dimensional Topology, Representation Theory
Pedro Saenz (21), Soft Matter Physics, Fluid Dynamics, Physical Mathematics
Andrey Smirnov (19), Representation Theory, Mathematical Physics

Assistant Professors

Arunima Bhattacharya (24), Geometric Analysis, Nonlinear Partial Differential Equations
Thomas Chandler (28), Applied Mathematics, Continuum Mechanics, Thin Elastic Materials, Complex Fluids, Fluid–Structure Interactions
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
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

James Stasheff
Michael E. Taylor
Jonathan M. Wahl
Warren R. Wogen

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Department of Mathematics
 Visit Program Website (<http://www.math.unc.edu>)

Chair
 Gregory P. Copenhaver
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Director of Graduate Studies
 Yaiza Canzani
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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 (with J.D.-Ph.D. dual-degree option)
- 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. 37)
- Digital media management (p. 40)
- Digital storytelling (p. 40)

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.

Courses

Numbered 400-999:

- Media and Journalism (MEJO) (<https://catalog.unc.edu/courses/mejo/>)

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. 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.

All residential master's students, regardless of area of study, must pass a test of word usage and grammar. Curricular and thesis/capstone requirements vary by area of study, as outlined below.

Journalism Area of Study

The 30-credit curriculum for the journalism area of study provides students with extensive training for public-service journalism that informs communities and strengthens civic life. It allows aspiring and early-career journalists to – in just 12 months – intensively learn the specialized skills of their craft.

Requirements

Students start with two courses in summer session II to develop foundational skills and examine relevant law, ethics, and other issues. In the fall, students complete two course that focus on real-world reporting and another to build skills to create content across various platforms. 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.

Code	Title	Hours
MEJO 741	Law, Ethics, and Contemporary Issues	3
MEJO 750	Fundamentals of Reporting	3
MEJO 751	Journalism Methods	3
MEJO 754	Advanced Reporting	3
MEJO 756	Investigative and Data-driven Reporting	3
MEJO 758	Public Life Reporting I	3
MEJO 782	Digital Content Creation	3
MEJO 992	Master's (Non-Thesis)	3

Students may take up to two elective courses, both in spring, 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.

Requirements

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 three courses may be taken from related subject fields in other schools and departments of the University or at neighboring universities.

Code	Title	Hours
MEJO 701	Insights and Analytics	3
MEJO 730	Management and Case Studies	3
MEJO 731	Campaigns and Clients	3
MEJO 732	Strategic Communication Writing	3

MEJO 777	Personal Branding and Professional Networking	1.5
MEJO 782	Digital Content Creation	3
MEJO 792	Capstone Project Development	3
MEJO 992	Master's (Non-Thesis)	3

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.

Requirements

Within this 39-credit-hour curriculum, each student completes the four core courses listed below and works with an advisor to build a specialized program of study based on this foundation. 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.

Code	Title	Hours
MEJO 703	Mass Communication Research Methods	3
MEJO 705	Theories of Mass Communication	3
MEJO 740	Media Law	3
MEJO 900	Reading and Research	1-3

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.

Requirements

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 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 30-credit-hour program consists of the following 10 courses:

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
MEJO 792	Capstone Project Development	3

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) 9 hours of additional coursework selected in consultation with the student's advisor, or 6 hours if the student receives transfer credit for one relevant, graduate-level course taken previously.

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 seven courses, totaling at least 21 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. Only U.S. citizens are eligible for Park Fellowships, but 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.

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. 37)
- Digital media management (p. 40)
- Digital storytelling (p. 40)

Professors

Debashis Aikat, Media Processes and Production; Political, Social and Strategic Communication; Journalism
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
Harsha Gangadharbatla, Political, Social, and Strategic 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
Allison Lazard, Media Uses and Effects, Health Communication, 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

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
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

Lorra Brown, Strategic Communication
Joshua Carlton, Strategic Communication
Shelvia Dancy, Journalism
Lee McGuigan, Political, Social and Strategic Communication
Erin Siegal McIntyre, Journalism
Renee Mitson, Media Uses and Effects; Political, Social and Strategic Communication
Torod Neptune, Strategic Communication
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
Deepti Khedekar, Strategic Communication
Nazanin Knudsen, Journalism

Contact Information

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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/>).

Courses

Numbered 100-999:

- LAW (LAW) (<https://catalog.unc.edu/courses/law/>)

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	PROFESSIONAL RESPONSIBILITY	2
LAW 266F	PROFESSIONAL RESPONSIBILITY	3
LAW 266P	PROFESSIONAL RESPONSIBILITY: THE LAW FIRM	3

Rigorous Writing Experience (RWE) Courses

Code	Title	Hours
Rigorous Writing Experience (RWE) Courses ³		
LAW 206D	Criminal Procedure Investigation: Doctrine and Writing Skills	3
LAW 211P	Trademark Practice Seminar	3
LAW 228W	Business Planning	3
LAW 261W	Environmental Law Practice	3
LAW 262	ENV OCEAN & COASTAL LAW	3
LAW 267S	Advanced Legal Writing: Summer Lab	2

LAW 274	Social Justice Lawyering	3
LAW 278W	Securities Regulation RWE	1
LAW 291W	Scientific Evidence	3
LAW 310	Constitutional Adjudication Seminar	3
LAW 316	Political and Civil Rights Seminar	3
LAW 326	Nature of the Judicial Process	2
LAW 329	Congress and the Presidency	3
LAW 332	Legal Issues in Higher Education	3
LAW 334	Current Issues in Privacy Law	3
LAW 336	APPELLATE ADVOCACY	3
LAW 338	Adv Commer Law/Contracts	3
LAW 340	Gender Violence and the Criminalized Survivor	3
LAW 342	Comparative Constitutional Law Seminar	3
LAW 345	Construction Law	3
LAW 357C	INTERNET LAW AND GOVERNANCE	3
LAW 364	NC State Constitutional Law	3
LAW 368	NC Pretrial Litigation - Torts	3
LAW 380	INTERNATIONAL LAW OF HUMAN RIGHTS	3
LAW 383	White Collar Crime	3
LAW 384	Intellectual Property Strategies and Transactions	3
LAW 386	Tax Policy Seminar	3
LAW 399	Supervised Research & Writing (Independent Study)	1-3
LAW 429W	Business Associations RWE	1
LAW 434	Criminal Justice Policy	3
LAW 439	Animal Law	3
LAW 444	Psychiatry and Law: Criminal Issues	3
LAW 446	Corporate Governance	3
LAW 456	Women and Health Law	3
LAW 464	Critical Legal Thought/Critical Lawyering	3
LAW 465	Current Issues in Law and Medicine	3
LAW 468	Regulation and Deregulation: Concepts and Skills	3
LAW 470	Agricultural/Food Law and Policy	3
LAW 472	Art Law	3
LAW 481	Advanced Copyright Law	3
LAW 491	Writing for Judicial Clerkships	2
LAW 503	Poverty and Public Policy in North Carolina	3
LAW 507	Criminal Justice and Civil Penalties	3
LAW 508	Current Topics in Criminal Justice	3
LAW 510	Environmental Justice	3
LAW 511	Sexual Violence and the Law	3
LAW 513	Reproductive Rights and Justice Law, Policy & Practice	3
LAW 516	Contract Drafting	3
LAW 526	Climate Change and the Law	3
LAW 528	Race and National Security in Legal History: The Case of the Japanese American "Internment"	3
LAW 529	Writing for Practice	2
LAW 538	Writing for the Bar	2
LAW 541	Trauma-Informed Lawyering	3
LAW 546	Legal Editing	1.0
LAW 551	Law of Financial Crises	2
LAW 552	Artificial Intelligence and the Law	3.0

LAW 561	Prosecutors and the Criminal Justice System	3
LAW 567	Environmental Crimes Prosecution Seminar	3
LAW 568	Immigration Enforcement	3
LAW 571	Elections, Political Parties, and The First Amendment	3
LAW 572	CONTRACT BOILERPLATE	3

Experiential Courses

Code	Title	Hours
Experiential Courses³		
LAW 211P	Trademark Practice Seminar	3
LAW 219	Alternative Dispute Resolution	3
LAW 222	Workers Compensation Law	2
LAW 228W	Business Planning	3
LAW 231	Defending Youth: Juvenile Justice and Education	3
LAW 254	Labor Law	3
LAW 261W	Environmental Law Practice	3
LAW 267	Advanced Legal Research	2
LAW 267S	Advanced Legal Writing: Summer Lab	2
LAW 267T	Advanced Legal Research	3
LAW 288	Trial Advocacy	3
LAW 301	Legislative Advocacy	2
LAW 310	Constitutional Adjudication Seminar	3
LAW 311	Supreme Court Clinic	3
LAW 315	ESTATE PLANNING PRACTICUM	2
LAW 336	APPELLATE ADVOCACY	3
LAW 368	NC Pretrial Litigation - Torts	3
LAW 384	Intellectual Property Strategies and Transactions	3
LAW 390	Youth Justice Clinic	4
LAW 391	Civil Clinic	5
LAW 397	Community Development Law Clinic	4
LAW 398A	Immigration Clinic	4-5
LAW 401	Externship Program	3
LAW 402	Externship Program	2-4
LAW 403	Full Term Externship	12
LAW 431	Law Practice Technologies	2
LAW 463	Advanced Bankruptcy	3
LAW 467	Negotiation	3
LAW 485	Interviewing and Counseling	3
LAW 488	Economic Justice Clinic	4
LAW 491	Writing for Judicial Clerkships	2
LAW 497	Small Firm Civil Practice	3
LAW 500	Externship	6
LAW 502	Intellectual Property Clinic	5
LAW 510	Environmental Justice	3
LAW 513	Reproductive Rights and Justice Law, Policy & Practice	3
LAW 515	Military and Veterans Law Clinic	4
LAW 516	Contract Drafting	3
LAW 522	Electricity and Renewable Energy Finance	2
LAW 525	Exploring the Role of In-House Counsel	3
LAW 527	Lawyering Communication and Negotiation Skills Survey	2

LAW 529	Writing for Practice	2
LAW 530	Electronic Discovery Technologies	2
LAW 531	Transactional Law Research	1
LAW 535	Intellectual Property Negotiation Simulation	1
LAW 540	Startup NC Law Clinic	5
LAW 541	Trauma-Informed Lawyering	3
LAW 545	Prosecutor Practicum	2.0
LAW 557	Deposition Skills	1
LAW 562	North Carolina Legal Research	2
LAW 563	Appellate Advocacy Competition Lab	2
LAW 564	Dispute Resolution Competition Lab	2
LAW 567	Environmental Crimes Prosecution Seminar	3
LAW 569	Criminalized Survivor, Detention, and Justice Clinic	4
LAW 570	Trial Advocacy Competition Lab	2
LAW 573	GOVERNMENT ENFORCEMENT AND GLOBAL CORPORATE COMPLIANCE	2
LAW 575	Family Defense Clinic	4-5
LAW 576	Administrative Law Research	1
LAW 577	AI & Tool Design	1
LAW 578	AI in Practice: Governance, Compliance & Contracting	2
LAW 579	AI Literacy for Lawyers	1
LAW 581	Motion Practice - Oral Advocacy	2

³ These lists contain all RWE and Experiential courses. Note that some of them may not be offered in every semester or even every academic year. Please confirm course offerings with the program prior to registration.

Distinguished Professors

Lisa L. Broome
Kara Bruce
D. Andrew Chin
John M. Conley
John Francis Coyle III
Maxine N. Eichner
Deborah R. Gerhardt
Michael J. Gerhardt
Thomas L. Hazen
Carissa Byrne Hessick
Frederick Andrew Hessick
Jeffrey Michael Hirsch
Donald T. Hornstein
Eisha Jain
Osamudia R. James
Thomas A. Kelley, III
Joseph F. Kennedy
Joan H. Krause
Holning Sherman Lau
Eric L. Muller
Gene R. Nichol, Jr.
Leigh Osofsky
Richard S. Saver
Theodore M. Shaw
Rick T. Su
Kathleen Thomas
Mark Weidemaier

Deborah M. Weissman

Distinguished Term Professor

Martin H. Brinkley

Associate Professors

David Stephen Ardia
Kate S. Elengold
Barbara A. Fedders
Marcus Gadson
Caleb N. Griffin
Dustin Ryan Marlan
Caroline L. Osborne

Assistant Professors

Carrie L. Floyd
Noah H. Marks
Daniel B. Rice

Clinical Professors

Kevin E. Bennardo
Kimberly C. Bishop
John W. Brooker
Alexa Z. Chew
Lewis Moore Everett
Rachel I. Gurvich
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
Harmony Decosimo
Anna Francesca Scardulla

Clinical Assistant Professor

Eric J. Fisher

Scholar

Mark S. Storslee

Adjunct Faculty

Curtis Hudson "Trey" Allen II
Teresa Carol Artis
Eric Kent Auberry
Michael Ballance
Carmen K. Bannon
Jennifer Bills
Robert Birrenkott
Seth Adam Blum
Mark Christopher Bolen
Elizabeth Barnes Braswell
Eric Brignac
Jonathan Edward Broun

LeAnn Brown
Patricia L. Bryan
Orla Buckley
Felice McConnell Corpening
Jennifer Van Zant Cross
Benjamin Ari Davidson
W. Kearns Davis Jr.
Jatinder Kaur Dhillon
Tasha Dickinson
Christopher Dillon
Dennis Michael Duffy
Catherine Ross Dunham
Anita S. Earls
Jillian Franke
William Mark Griffith
Elizabeth Grimes
Mikael Gross
John Richard Hazlett
Harper Heckman
Ashley Lee Hogewood III
Robert Jenkins
Sally C. Johnson
Mark James Kleinschmidt
Tod M. Leaven
Christopher Lynch
Rina Lyubkin
Bianca Mack
Richard Magee
Kellie Mannette
James M. Markham
C. Steven Mason
Cece Mavico
John Rankin McArthur
William S. Mills
Sylvia K. Novinsky
Bentley Jason Olive
John V. Orth
Barbara J. Osborne
Matthew Scott Peeler
Alexis Pendergraft
Charles Christian Plambeck
Charles Thelen Plambeck
Todd Roessler
Elizabeth Simpson
Richard Albert Simpson
Kelly Podger Smith
Eric Spitler
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Kimberly Kathyleen Tran
Joni Walser

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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, 60 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 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.

Courses

Numbered 400-999:

- Microbiology and Immunology (MCRO) (<https://catalog.unc.edu/courses/mcro/>)

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-dissertation 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 dissertation project and provides an opportunity for the student to demonstrate his or her ability to discuss the fields of science related to the dissertation proposal, as well as the ability to analyze problems and design experiments. The exam serves a dual purpose as the initial meeting of the dissertation committee. Therefore, a separate decision to approve or disapprove the dissertation project will occur in the same meeting.

Students must regularly attend weekly student and departmental seminars, 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. ³		4
Thesis/Substitute or Dissertation ⁴		
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 993 is a repeatable course every semester.

Milestones

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 26) for more information.

- Master's Committee
- Master's Oral Exam/Approved Exam Substitute or 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 ability to teach.
- 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		
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.		3
Thesis/Substitute or Dissertation		
MCRO 994	Doctoral Research and Dissertation ³	3
Minimum Hours		36

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 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. 26) 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 Diseases¹
- Ralph Baric (76)**, Molecular Mechanisms of Virus Cross-Species Transmissibility and Systems Genetics and Pathogenesis¹
- Robert Bourret (64)**, Signal Transduction in Bacteria
- Brian Button**, Mucus Barrier Immunology, Polymer#Epithelial Interface Mechanics, Epithelial Ion Channel Regulation, Motile Cilia Regulation¹
- Wesley Burks (102)**, Allergic Diseases, Mechanisms and Immunotherapy¹
- Bruce Cairns (93)**, Immune Response to Injury, Cellular Immunology, Transplantation¹
- 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
- Blossom Damania (79)**, Kaposi's Sarcoma-Associated Herpesvirus (KSHV/HHV-8), Rhesus Monkey Rhadinovirus (RRV)
- Jeff Dangi (87)**, Plant Genetics, Plant Microbiome, Plant Disease Resistance and Cell Death Control, Bacterial Type III Secretion Systems¹
- Toni Darville (117)**, *Chlamydia trachomatis* Pathogenesis and Immune Protective Mechanisms¹
- 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
- Robert L. Ferris**, Novel Immuno-Oncology Agents Testing, Anti-Tumor Immunity and Mechanisms of Tumor Escape¹
- Jack Griffith (35)**, Chromosome Structure: Viruses and Their Host Cells
- Mark Heise (83)**, Molecular Genetics of Viral Pathogenesis¹
- 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, Vaccines¹
- Zhi Liu (91)**, Biochemistry, Cell Biology, and Immunology of Hemidesmosome and Basement Membrane¹
- David M. Margolis (90)**, Regulation of Gene Expression, Molecular Biology of Retroviruses, HIV Pathogenesis¹
- Cary Moody (103)**, Pathogenesis of Human Papillomaviruses
- Robert A. Nicholas (94)**, Antibiotic Resistance Mechanisms, Bacterial Genetics, *Neisseria gonorrhoeae*¹
- Kenneth N. Oliver**, Host-Pathogen Interactions and Therapeutic Targets Related to Chronic Lung Infections and Mycobacterium Abscessus¹
- David Peden**, Translational and Clinical Research in Environmental Lung Disease¹
- Matthew Redinbo**, Structural and Chemical Biology of Host-Pathogen Contacts¹

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 Therapies¹

John L. Schmitz, Infectious, Autoimmune, Allergic diseases, Solid Organ Transplantation, Immunologic Testing Services¹

Jonathan Serody (82), Transplantation and Tumor Immunology¹

Ronald Swanstrom (74), Molecular Biology and Pathogenesis of HIV¹

Rita Tamayo (100), Microbial Pathogenesis, Bacterial Genetics, Bacterial Gene Regulation

Jenny P. Ting (50), Molecular Immunology, Transcription, Signal Transduction, Apoptosis, Neuroimmunology, Transplantation¹

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 Hosts¹

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 Immunology¹

Matthew C. Wolfgang (89), Microbial Pathogenesis, Bacterial Gene Regulation, Host-Pathogen Interactions

Samuel M. Young Jr, Molecular Principles of Auditory Information Processing, Gene Therapy Approaches to Treat Neurological Disorders¹

Associate Professors

Janelle Arthur (113), Microbiota, Inflammation and Innate Immunity, Colorectal Cancer

Luther Bartelt, Microbial Pathogenesis, Host-Pathogen Interactions, Microbiota-Pathogen Interactions, Metabolomics, Immunity¹

Ed Browne (128), Virology, Immunology, HIV-1, Systems Biology, Single Cell Analysis¹

Brian Conlon (115), Antibiotic Resistance, Bacteriology

Camille Ehre, Respiratory Virus and Host Interactions, Muco-Obstructive Lung Diseases, Cellular Response to Infection, Innate Defense Mechanisms¹

Misty Good, Neonatology, Developmental Biology, Intestinal Immunity, Mucosal Immunology, Epithelial Biology, Necrotizing Enterocolitis¹

Nilu Goonetilleke (116), T-Cell Immunology, HIV-1 Immunobiology

Brent Hanks, Tumor-Mediated Immune Evasion, Immunotherapy Resistance, Dendritic Cell Tolerization, Dendritic Cell Metabolism, NLRP3, Stress-Induced Immunotherapy Resistance, Tumor Dormancy, In Vivo Dendritic Cell Targeting, Biomarker-Guided Immunotherapy¹

Matthew Hirsch, AAV Gene Therapy, Gene Editing, Cellular Response to Foreign DNA¹

Helen Lazear (114), Innate Immune Mechanisms that Control Flavivirus Pathogenesis

Jessica Lin, Molecular Epidemiology, Malaria Transmission, Parasite Genotyping, Infectious Disease¹

Nancie MacIver, Nutritional Immunology and Immunometabolism¹

Jason Mock, Immunology, Acute Lung Injury, Mechanism Underlying Lung Repair and Resolution¹

Nathaniel Moorman (104), Molecular Virology, Host Pathogen Interactions, HCMV Pathogenesis

Timothy Moran, Immune Mechanisms of Allergy and Asthma¹

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 Cancer¹

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 Microscopy¹

Jessica Thaxton, Stress-Directed Failure of Immune Cells in Cancer¹

Ageliki Tsagaratou, Epigenetics, T Cell Differentiation and Function, Cancer¹

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 Leukemia¹

David Zaharoff (119), Vaccine and Immunotherapy Delivery Platforms¹

Assistant Professors

Jacob E. Choby, Antibiotic resistance in Gram-negative bacteria

Lisa Gralinski (48), Viral Pathogenesis, Respiratory Disease, Coronavirus, Virus-Host Interactions¹

Simon M. Gray, Inflammatory bowel disease

Indriati Hood-Pischany, Microbial Ecology of the Vaginal Microbiome, Microbiome-Focused Therapeutic Development¹

Justin M. Jensen, Innate immunity, anti-phage immunity, molecular mechanism¹

Sarah Joseph (49), HIV-1 Evolution and Establishment of Reservoirs, HIV-1 Neuropathogenesis

Qingyun Liu, Bacterial evolution, Antimicrobial resistance, Mycobacterium tuberculosis, Population genomics, Host-pathogen interactions¹

Ankit Malik, Mucosal Immunology, Host-Pathogen Interactions, Innate-Adaptive Immune Interactions

Brian Miller, Mechanisms of Tumor Response and Resistance to Immunotherapy; Myeloid Cells¹

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 Development¹

Lance Thurlow (130), Host-Pathogen Interactions, Microbial Physiology and Immune Metabolism¹

Matthew Vogt (58), Viral Immunology, Antibodies, Acute Flaccid Myelitis, Enterovirus D68, Respiratory Viruses, Pathogenesis

Clinical Professors

Jonathan Hansen (110), Inflammatory Bowel Disease, Host-Microbe Interactions, Microbial Adaptation/Evolution, Experimental Colitis¹

Teaching Associate Professors

Gina Donato, Microbiology and immunology medical education and graduate, undergraduate, and pre-health education

Teaching Assistant Professors

Lorraine Cramer, Microbiology and immunology undergraduate, pre-health, and interprofessional health education

Rebekah L. Layton, Biomedical education, training, and workforce development specializing in career development, wellness, and mentoring

craig_cameron@med.unc.edu

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 Immunology¹

Shaomin Tian, Nanoparticle-Mediated Drug Delivery, Nano-Vaccine Formulation for Infectious Diseases and Cancer Immunotherapy

Kimberly Walker, Microbial Pathogenesis, Bacterial Gene Regulation

Director of Graduate Studies

Robert B. Bourret
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Research Assistant Professors

Maria Abad Fernandez, Flavivirus vaccine and natural immunity, Antibody-dependent enhancement (ADE), Functional serology and antibody profiling, Human cohort studies

Mohamad Sotoudegan, Single-Cell Virology, Microfluidics, (Bio)MEMS

Balamayooran Theivanthiran, Tumor-intrinsic NLRP3 inflammasome, Neutrophil progenitor cells

Shuntai Zhou, HIV Virology, Molecular Epidemiology, Bioinformatics, Data Science and Machine Learning

Professors Emeriti

Steven L. Bachenheimer

Janne G. Cannon

Peggy Cotter

Susan A. Fiscus

Nancy C. Fisher

Jeffrey A. Frelinger

Peter H. Gilligan

William Goldman

Jean Handy

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 *non-primary faculty members*

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. Students who hold an equivalent M.A. from another institution may request a waiver of the M.A. requirement.

Please note that applicants are not 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 \$21,600 to \$40,000. Teaching assistantships may be awarded by the department; these awards average \$21,600 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*.

Courses

Numbered 400-999:

- Music (MUSC) (<https://catalog.unc.edu/courses/musc/>)

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

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

Teaching Assistant Professor

David Falterman (13), Musical Form, Persona Studies, Popular Song

Contact Information

Department of Music

Visit Program Website (<http://music.unc.edu>)

Chair

Jocelyn Neal

jneal@email.unc.edu

Associate Chair for Academic Studies

Michael Figueroa

mfigueroa@unc.edu

Director of Graduate Studies

David Garcia

daga@email.unc.edu

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 more than 80 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://bbbsp.unc.edu/admissions/>) around BBSP's deadline, which is typically in November.

Courses

Numbered 400-999:

- Neuroscience (NBIO) (<https://catalog.unc.edu/courses/nbio/>)

Required and elective courses

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 (~22 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 (~11 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. Baldwin, Diering, S. Cohen, Ritola, Jensen, Itano, Yang, 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. Kasten.¹

Block 2 – Synaptic Mechanisms (~11 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. Reissner¹, Downs, Song, Christoffel, Philpot, Dudek.

Block 3 – Receptors (~9 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. Kash, Walsh, Diering, Rodríguez-Romaguera, Lischinsky, Scherrer¹.

Block 4 – Development of the Nervous System (NBIO 723 Spring) (~13 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. Anton, Baldwin, Gupton, Mealer, Snider, Deshmukh, Asrican, Stein, Shiao, Song¹, Stein.

Block 5 – Anatomy and Function of Sensory and Motor Systems (~14 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 Hige, Greenwald, Frohlich, Cheney, Kato, Cross, Albert, Shih.

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 as fMRI and DTI. Spring. Evangelista, Sklerov, Herman, Zylka, Shen, Wu, Dichter, Gilmore, T. Cohen¹.

¹ denotes the head of the block

Communication of Scientific Results Neurobiology (NBIO 850)

Also known as P Class, this course is focused on the principles for effective scientific communication. The major component is focused on developing and giving scientific talks. The course also covers how to introduce speakers, prepare slides, and speak with the public about science. Finally, a written component is focused on preparation of specific aims for fellowship and grant application. Tiffany Garbutt currently directs the course, with additional faculty participating. The class is limited to Neuroscience Curriculum students. Students prepare talks, refine them in small groups (3-4 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 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 all offering input. Together, these components help the students develop their own effective speaking and writing methods, and prepare students for the next stage in their scientific careers. Fall. Garbutt, Scherrer.

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, Wu. ****Students who receive NBIO T32 support are required to take Neuroanalytics NBIO 750 as one of their electives.**

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 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 (<https://www.med.unc.edu/neuroscience/curriculum/>), 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.

Scientific Grant Writing (CBPH706 (<https://www.med.unc.edu/neuroscience/curriculum/courses/electives/>))

Advanced Microscopy (NBIO710 (<https://www.med.unc.edu/neuroscience/curriculum/courses/electives/>))

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)

Translational Seminar in Cognitive and Clinical Neuroscience (NBIO 727)

Neural Information Processing (NBIO 729)

Neurodevelopmental Basis of Brain Disorders (NBIO 751 (<https://www.med.unc.edu/neuroscience/curriculum/courses/electives/>))

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)

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		36

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	2
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. 26) 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 Manuscript Submission
- Doctoral Intradepartmental Review
- Doctoral Preparatory Committee Review
- Doctoral Research Presentation

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

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

Sylvia Fitting, Structural and Functional Consequences of Behavior and Neurocognition in Disease

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

Elizabetha 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

Julietta Lischinsky, Neurobehavioral Circuits

Donald Lysle, Neuroimmunology, Learning Processes

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

Gregory Scherrer, Pain and Opioids

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

Joan M. Taylor, Characterize the Intracellular Signaling Pathways That Govern Normal and Aberrant Growth Responses in the Cardiovascular and Musculoskeletal System

Todd Thiele, Neurobiology of Alcoholism

Jenny Ting, Use of Murine Models in the Regulation of Inflammatory Genes in Demyelination and Remyelination

Sammuel M. Young, Jr., Gene Therapy and Auditory Processing

Mark Zylka, Molecules and Mechanisms for Pain

Associate Professors

Jessica Cohen, Functional Brain Networks Interaction When Confronted with Changing Cognitive Demands

Sarah Cohen, Lipid Trafficking

Todd Cohen, Alzheimer's Disease, Frontotemporal Dementia, Amyotrophic Lateral Sclerosis

Eran Dayan, Brain Connectivity, Functional Neuroimaging

Graham Diering, Molecular Mechanisms of Sleep Function Impact on the Brain

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

Toshi Hige, Mechanisms of Behavioral Responses in Regards to Synaptic Plasticity, Neural Circuit and Behavior

Michelle Itano, Microscopy Optimization for Visualizing Living Networks

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

Scott Parnell, Effects of Drug Abuse During Early Development and the Underlying Mechanisms of Birth Defects

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

Crystal Schiller, Changes in Ovarian Steroid Hormones Contribute to Depression and Anxiety Across the Reproductive Lifespan

Mark Shen, Neurodevelopmental Disorders

Celia Shiau, Genetic, Cellular and Developmental Systems for Vertebrate Biology

Natasha Snider, Human Diseases Caused by Defects in the Cytoskeleton

Jason Stein, Genetic Effects on Multiple Aspects of the Human Brain

Hyejung Won, Genetic Risk Factors for Psychiatric Illnesses and Neurobiological Mechanisms

Guorong Wu, Developing Computational Tools for Understanding Brain Pathology

Anthony Zannas, Epigenetic Changes and How They Contribute to Stress-Related Somatic and Behavioral Phenotypes

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

Leon Coleman, Alcohol Use Disorders and Pathologies

Shahzad S. Khan, Molecular Basis of Neurodegeneration

Robert G. Mealer, Protein Glycosylation and Psychiatric Disorders

Nicolas Pegard, Computational Optics, Imaging Systems, Optical Instrumentation, and Digital Interfaces

Raghavendra Pradyumna Pothukuchi, Building Computers That Can Directly Talk to the Brain, and Think Like the Mind

Jose Rodriguez-Romaguera, Neuronal Circuits that Drive Hyperarousal

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

Amol Yadav, Brain-Spine-Machine Interfaces

En Yang, Distributed Computations for Learning and Memory

Tarek M. Zikry, Dimensionality Reduction, Statistical Machine Learning, Validation and Interpretation of Unsupervised Learning, Bioinformatics and Computational Biology, Precision Medicine, Cancer, Neuroscience

Contact Information

Neuroscience

Visit Program Website (<https://www.med.unc.edu/neuroscience/curriculum/>)

Director of Graduate Studies

Jay Brenman
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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.).

Courses

Numbered 400-999:

- Nursing (NURS) (<https://catalog.unc.edu/courses/nurs/>)

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 47 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). Students 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 M.S.N. program is distance-based and incorporates both synchronous and asynchronous online learning, on-campus immersive experiences, and precepted clinical experiences.

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 School of Nursing 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 60–75 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 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 D.N.P. curriculum builds on the M.S.N. degree to achieve the highest level of nursing practice. The B.S.N. to D.N.P pathway is distance-based and incorporates both synchronous and asynchronous online learning, on-campus immersive experiences, and precepted clinical experiences. The M.S.N. to D.N.P pathway is distance-based and incorporates both synchronous and asynchronous online learning and on-campus immersive experiences.

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
Ashley Leak Bryant
Cheryl Giscombe
Cheryl B. Jones
Saif Khairat
Shawn Kneipp
Jennifer Leeman
Sheila Santacroce
Mark Toles

Professors

Ashley Leak Bryant
Cheryl Giscombe
Cheryl B. Jones
Saif Khairat
Shawn Kneipp
Jennifer Leeman
Sheila Santacroce
Brent Small
Mark Toles
Margaret C. Wilmoth

Associate Professors

Jada Brooks
Leslie Davis
Rachel Hirschey
Eric Hodges
Cathi Propper
Natalia Rodriguez Villegas
Jessica Williams

Jessica Zegre-Hemsey

Assistant Professors

Lorinda Coombs
Matthew LeBlanc
Lisa Mansfield
Isabel Roth
Rebecca Salomon
Karen Sheffield-Abdullah
Grace Wu

Research Associate Professors

Jamie Crandell
Sinhye Kim
Todd Schwartz
Bharathi Zvara

Fixed Term Track

Professors

Jennifer Alderman
Rumay Alexander
Suja Davis
Jean Davison
Rebecca Hill
Valerie Howard
Rhonda Lanning
Carrie Palmer
Theresa Raphael-Grimm
Victoria Soltis-Jarrett
Lisa Woodley
Meg Zomorodi

Associate Professors

Brandi Apple
Maureen Baker
Susana Barroso
Samantha Bernstein
Julie Jacobson-Vann
Maureen Kelly
Rebecca Kitzmiller
Shannon Matthews
Audra Rankin
Leslie Sharpe
JoAn Stanek
Elizabeth Stone
Tracy Vernon-Platt
Megan Williams

Assistant Professors

Elizabeth Baldwin
Candance Beddard
Alzora Benjamin
Kandye Brennan
Amanda Brinson
Michael Bury
LaTonia Chalmers
Beth Cosgrove
Cathy Crawford
Bethany Davis
Stephanie Fisher

Nicole Forlan
Jean Hammer
Sharon Jackson
Ann Marie Jones
Stephanie Machalicky
Melody McCune
Rachel McNerney
Rebecca Michael
Felicia Mosley-Williams
Leigh Mullen
Katherine Peppers
Paige Randall
Erin Stanley
Nancy Thompson
Jessica White
Sarah White

Instructors

Marlena Brokob
Marco Castro
Ryan Lewis
Megan Ross
Scotty Switzer
Cara Winstead

Nurse Specialists

Cheyenne Hochhalter
Tali Horn
Laura Livingston
Dianna Monroe
Makkada Morrison
Lonna Patel
Samantha Sheets Mapel

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
Carol Durham
Noreen Esposito
Catherine I. Fogel
Beverly Foster
Cynthia M. Freund
Sandra G. Funk
Barbara Germino
Jean Goeppinger
Edward Halloran
Joanne Harrell
Donna Havens
Carol C. Hogue
Margaret F. Hudson
George Knafl
Kathleen Knafl
Betty H. Landsberger

Patricia Lawrence
Vickie Lester
Mary Lynn
Barbara Mark
Deborah Mayer
Laura McQueen
Margaret Miles
Nancy Milio
Helen M. Murphy
Betty Nance-Floyd
Virginia Neelon
Sonda Oppewal
Julie Page
Mary Palmer
Nilda Peragallo Montano
Susan Pierce
Shielda Rogers
Barbara C. Rynerson
Margarete Sandelowski
Mary Schuler
Gwen Sherwood
Anne Skelly
Lixin Song
Ingrid Swenson
Eleanor Taggart
Anita Tesh
Suzanne Thoyre
Debbie Travers
Marcia Van Riper
Julee Waldrop
SeonAe Yeo

Contact Information

School of Nursing
Visit Program Website (<http://nursing.unc.edu>)

Dean and Professor
Valerie Howard
howardv@unc.edu

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Carrie Palmer
cfarr@email.unc.edu

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Jessica R. Williams
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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 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.

Courses

Numbered 400-999:

- Nutrition (NUTR) (<https://catalog.unc.edu/courses/nutr/>)

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	Foundations of Public Health ¹	3
Core Courses		
BIOS 600 or BBSP 710	Principles of Statistical Inference Biostatistics for Laboratory Scientists	2-3
NUTR 600	Human Metabolism: Macronutrients	3
NUTR 620	Human Metabolism: Micronutrients	3
NUTR 622	Nutrition Research Seminar	1
NUTR 765 or EPID 600	Foundations in Nutrition Epidemiology Principles of Epidemiology for Public Health	3

or EPID 710	Fundamentals of Epidemiology	
NUTR 910	Nutrition Research ²	12
Electives		
Graduate-level Electives 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 variable credits hours, for a total of 12 credit hours.

³ See list of suggested elective course options below. Not an exhaustive list. Work with Academic Coordinator to plan best courses for student plan.

Elective Course Options

Code	Title	Hours
NUTR 709	Medical Nutrition Therapy 1	3
NUTR 711	Nutrition Across the Lifecycle	3
NUTR 723	Community Nutrition	3
NUTR 745	International Nutrition	3
NUTR 770	Clinical Trials in Nutrition	3
NUTR 749	mHealth for Behavior Change	2
NUTR 805	Nutrition Policy	3
NUTR 865	Advanced Nutritional Biochemistry: Nutrigenomics and Precision Nutrition	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. 26) 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
or BIOS 600	Principles of Statistical Inference	
SPHG 712	Methods and Measures for Public Health Practice	2
or EPID 600	Principles of Epidemiology for Public Health	
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
NUTR 701	Nutrition Practicum Preparation	2
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	Foundations in Nutrition Epidemiology	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		
Practicum: 200 minimum hours		
M.P.H. Culminating Experience		
NUTR 992	Master's (Non-Thesis)	3
or SPHG 992	Master's (Non-Thesis)	
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 (or DICAS for Nutrition and Dietetics applicants) 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, Food Systems and Health (<https://sph.unc.edu/resource-pages/master-of-public-health/nutrition-concentration/>) 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, counseling and the effects of dietary culture on the individual and within the community.

As a student in the Nutrition, Food Systems and Health concentration, you will gain the skills to assess scientific evidence for nutritional guidelines and recommendations, evaluate how social, cultural, environmental and community factors affect dietary intake and nutrition-related outcomes in individuals, families and communities, demonstrate proficiency in writing evidence-based, nutrition-related professional and consumer communications using a variety of media platforms.

Course Requirements

Requirements for the M.P.H. degree in the **Nutrition, Food Systems and Health** concentration

Code	Title	Hours
M.P.H. Integrated Core		
SPHG 711	Data Analysis for Public Health	2
or BIOS 600	Principles of Statistical Inference	
SPHG 712	Methods and Measures for Public Health Practice	2
or EPID 600	Principles of Epidemiology for Public Health	
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		
NUTR 711	Nutrition Across the Lifecycle	3
NUTR 713	Nutrition Communication, Culture and Equity	3
NUTR 723	Community Nutrition	3
NUTR 765	Foundations in Nutrition Epidemiology	3
NUTR 805	Nutrition Policy	3
M.P.H. Electives		
Electives (Graduate-level courses, 400+ level at Gillings, 500+ level at UNC); 9 credit hours minimum		9
M.P.H. Culminating Experience		
NUTR 992	Master's (Non-Thesis)	3
or SPHG 992	Master's (Non-Thesis)	
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)

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	Foundations of 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 one of the following Epidemiology Courses:		3
NUTR 765	Foundations in Nutrition Epidemiology 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

Specialization Electives ⁶		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.
- ⁶ Specialization electives can be any graduate level courses that correlate to or compliment a student's focus of study. Examples of pre-approved courses can be found below. Students should plan their specialization courses with their faculty mentor and academic advisor.

Specialization Elective Options

Code	Title	Hours
Nutrition		
NUTR 696	Readings in Nutrition	1-9
NUTR 709	Medical Nutrition Therapy 1	3
NUTR 712	Nutrition Communication, Counseling and Culture	3
NUTR 715	Medical Nutrition Therapy 2	4
NUTR 745	International Nutrition	3
NUTR 748	Global Food and Nutrition Security	3
NUTR 749	mHealth for Behavior Change	2
NUTR 751	Global Healthy And Sustainable Food Systems	3
NUTR 753	Local Food Systems, Health, and the Environment	1-3
NUTR 760	Food Science	2
NUTR 760L	Food Science Laboratory	1
NUTR 805	Nutrition Policy	3
NUTR 818	Analytical Methods in Nutritional Epidemiology	3
NUTR 845	Nutritional Metabolism	3
NUTR 865	Advanced Nutritional Biochemistry: Nutrigenomics and Precision Nutrition	2
NUTR 920	Research Rotations for Nutritional Biochemistry Doctoral Students	1-3
Health Behavior		
HBEH 720	Health Equity Methods	3
HBEH 730	Theoretical Foundations of Health Behavior	3
HBEH 748	Design Thinking for the Public Good	3

HBEH 749	mHealth for Behavior Change	2
HBEH 754	Advanced Qualitative Research Methods in Health Behavior and Health Research	3
HBEH 760	Research Methods with Health Behavior Applications I	3
HBEH 761	Applied Statistical Methods in Health Behavior Research I	3
HBEH 763	Scale Development Methods	3
HBEH 765	Cancer Prevention and Control Seminar	3
HBEH 772	Planning, Implementing, and Evaluating Health Behavior Interventions	2
HBEH 784	Implementation Science in Global Health	3
HBEH 811	Development and Evaluation of Health Promotion and Disease Prevention Interventions	3
HBEH 815	Foundations of Health Behavior I	3
HBEH 816	Foundations of Health Behavior II	3
HBEH 891	Special Studies in Behavior Change	1-6
HBEH 960	Principles and Practices of Alternative, Complementary and Integrative Medicine	3
Epidemiology		
EPID 705	Introduction to Deductive and Probability Logic in Epidemiology	2
EPID 710	Fundamentals of Epidemiology	3
EPID 712	Readings in Fundamentals of Epidemiology	1
EPID 715	Theory and Quantitative Methods in Epidemiology	4
EPID 716	Epidemiologic Data Analysis	3
EPID 717	Advanced Epidemiologic Methods	3
EPID 735	Cardiovascular Epidemiology	3
EPID 742	Biomarkers in Population-Based Research	2
EPID 743	Genetic Epidemiology: Methods and Applications	3
Biostatistics		
BIOS 511	Introduction to Statistical Computing and Data Management	4
BIOS 645	Principles of Experimental Analysis	3
BIOS 641	Quantitative Methods for Health Care Professionals I	4
BIOS 642	Quantitative Methods for Health Care Professionals II	4
Public Health		
PUBH 730	Leading Continuous Quality Improvement (CQI) in Public Health Locally And Globally	3
Health Policy and Management		
HPM 797	Systems Thinking & Collective Impact	3
HPM 886	Qualitative and Mixed Methods Designs	3
Graduate Studies		
GRAD 717	Introduction to Entrepreneurship and The Entrepreneurial Mindset	1.5

Milestones

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 26) 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

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, Co-Director of Graduate Studies and PhD Program

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

Molly De Marco

Amanda Holliday, M.P.H.-N&D Program Director

Folami Ideraabdullah*

Natalia Krupenko

Katie Meyer

Sandra Mooney

Carmen Samuel-Hodge

Lindsey Smith Taillie, Associate Chair for Academics

Kimberly Truesdale, M.P.H.-NFSH 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

Beth Jenks

Anna Kahkoska

Stephanie Martin, Co-Director of Graduate Studies & PhD Program

Kamaria Mason

Brooke Nezami

Wimal Pathmasiri

Blake Rushing

Nipun Saini

Jessica Soldavini

Isis Trujillo

Heather Wasser

*Primary appointment is in another UNC department, faculty's secondary appointment is Nutrition.

Contact Information

Department of Nutrition

Visit Program Website (<http://www.sph.unc.edu/nutr/>)

Department Chair

Raz Shaikh

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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 laboratory¹
2. Human physiology¹
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; neuropsychology)
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

Courses

Numbered 700-999:

- Occupational Therapy (OCCT) (<https://catalog.unc.edu/courses/occt/>)

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

Director

Nancy Bagatell
Nancy_Bagatell@med.unc.edu

Student Services Specialist

Tamara Mesko
tamara_mesko@med.unc.edu

Milestones

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 26) 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

Ryan Lavalley, Community Practice, Older Adults

Bridgette LeCompte, School-Based 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

Micheal Sandbank, Early Intervention, Autism, Meta-Analysis

Lauren Selingo, Substance Use, Women, Older Adults

Hilary Till, Acute Care

Professors Emeritae

Ruth Humphry

Cathy Nielson

Associate Professors Emeritae

Virginia Dickie

Jane Rourk

Contact Information

Division of Occupational Science and Occupational Therapy

Visit Program Website (<https://www.med.unc.edu/healthsciences/ocsci/>)

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://bbbsp.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.

Courses

Numbered 700-999:

- Pathology (PATH) (<https://catalog.unc.edu/courses/path/>)

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	Critical Thinking in Science: From Hypothesis to Grant Proposal	3
PATH 850	Scientific Writing in Pathobiology and Translational Science	2
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	Cell Biology and Physiology in Health and Disease II
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/LINUX for Biomedical Researchers

GNET 743	Introductory Statistical Analysis in R for Biomedical Scientists
GNET 744	Biological Sequence Analysis, Protein-Structure, and Genome-Wide Data
GNET 747	Next Generation Sequencing: Systems and Applications
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. 26) 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 (First-Author Research Manuscript)
- Doctoral Preparatory Committee Review
- Doctoral Ethics Requirement
- Doctoral Career Development Experience

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 Gooze, 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

Georgette A. 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

Lori R. 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 Nitschle, 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

agladden@email.unc.edu

Chair
Russell Broaddus
rbroadus@med.unc.edu

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

Contact Information

Department of Pathology and Laboratory Medicine
Visit Program Website (<http://www.med.unc.edu/pathology/>)

Director of Graduate Studies
Andrew B. Gladden

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://bbbsp.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: bbbsp@unc.edu

Courses

Numbered 700-999:

- Pharmacology (PHCO) (<https://catalog.unc.edu/courses/phco/>)

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. 26) 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 Manuscript Submission (Accepted)
- Doctoral Intradepartmental Review

Professors

James Bear, Cell Motility, Migration, and Cancer Metastasis¹

Jean Cook, Cell Cycle Control in Human Cells

Fulton T. Crews, Excitotoxicity, Gene Delivery, Neuroprogenitor 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 Interactions¹

H.G. Dohman, Receptor and Signal Transduction: Mechanisms of Drug Desensitization¹

H. Shelton Earp, Growth Regulation, Growth Factor and Protein Kinases¹

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, Cancer¹

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 Drugs¹

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

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 Transduction¹

Nigel Mackman, Role of Tissue Factor in Hemostasis, Thrombosis and Ischemia-Reperfusion (I/R), Injury¹

Leslie Morrow, Molecular Neuropharmacology of GABA Receptors and Alcohol

Robert A. Nicholas, G-Protein-Coupled P2Y Receptors, Mechanisms of Antibiotic Resistance¹

Bryan Roth, Regulation of Signaling and Trafficking, Drug Discovery

Janet Rubin, Mechanical and Hormonal Control of Bone Remodeling, Mesenchymal Stem Cell Differentiation, and Osteoporosis¹

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-Omics¹
Jen Jen Yeh, Gene Expression Profiling of Human Tumors; Study, Development, and Evaluation of Novel Therapeutics; Pancreatic and Colorectal Cancer¹
Samuel Young, Genetics and Metabolism

Associate Professors

J. Mauro Calabrese, Epigenetic Control by Long Noncoding RNAs, Genomics, Stem Cells, Cancer, Human Genetic Disorders
James Fiordalisi
Zoe McElligott, Substance Abuse, Anxiety and Depression
Yinglong Miao, Biomolecular Modeling, Cellular Signaling, Computer-Aided Drug Design
Somnath 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 Opioids¹
William Zamboni, Application of Pharmacokinetic, Pharmacodynamic, and Pharmacogenetic Principles in the Optimization of the Chemotherapeutic Treatment of Cancer, Nanoparticle Drug Delivery¹
Qisheng Zhang, Lipid Signaling in Development and Disease¹

Assistant Professors

Maria Aleman, Non-Malignant Hematology with a Focus on Erythropoiesis, RNA Regulation, and Iron Metabolism
Edward Bahnon, Vascular Biology, Redox Biology, Vascular Disease, Drug Delivery¹
Adriana Beltran Lopez, Human Pluripotent Cell Core Genetics¹
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 Cancer¹
Xin Chen
John Cidlowski, Glucocorticoid Hormone Action¹
Jeffrey Diberto
Thomas Helton
Laura Herring, UNC Metabolomics and Proteomics
Ekhson Holmuhamedov¹
Sommath Mukhopadhyay, Cannabinoid and G-Protein Coupled Receptor-Mediated Regulation of Neurogenesis and Angiogenesis
Ricardo Richardson¹
Ryan Strachan
Enrique Teran

Professors Emeriti

Adrienne D. Cox
T. Kendall Harden
Alan Jones
Rudolph L. Juliano
Ryszard Kole
Ken McCarthy
Gene A. Scarborough
Yanping Zhang

¹ joint faculty members

Contact Information

Department of Pharmacology
 Visit Program Website (<http://www.med.unc.edu/pharm/>)

Chair
 Henrik Dohlman
henrik_dohlman@med.unc.edu

Director of Graduate Studies
 J. Mauro Calabrese
jmcalabr@med.unc.edu

Student Services Manager
 April Villanueva
april_villanueva@med.unc.edu

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 pharmaceuticals; 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.

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/>).

Application Requirements

- Graduate School application
- Nonrefundable \$95.00 application fee. Fee scholarships are available. Please contact Will Taylor at osa@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.

Courses

Numbered 700-999:

- Pharmacology (PHCO) (<https://catalog.unc.edu/courses/phco/>)
- Chemical Biology and Medicinal Chemistry (CBMC) (<https://catalog.unc.edu/courses/cbmc/>)
- Pharmacoengineering and Molecular Pharmaceutics (DPMP) (<https://catalog.unc.edu/courses/dpmp/>)
- Experimental Therapeutics (DPET) (<https://catalog.unc.edu/courses/dpet/>)
- Pharmaceutical Outcomes and Policy (DPOP) (<https://catalog.unc.edu/courses/dpop/>)
- Pharmaceutical Sciences (PHRS) (<https://catalog.unc.edu/courses/phrs/>)
- Practice Advancement and Clinical Education (PACE) (<https://catalog.unc.edu/courses/pace/>)
- Masters in Pharmaceutical Science (MPHR) (<https://catalog.unc.edu/courses/mphr/>)

NOTE: 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

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.

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
CBMC 808	Grant Writing for Graduate Students	2
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

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.

Code	Title	Hours
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
DPMP 865	Immunoengineering	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

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.

Code	Title	Hours
DPOP 806	Pharmaceutical Policy	3
DPOP 872	Proposal Writing in DPOP	3
PHRS 801	Foundations for Cross-Disciplinary Training in the Pharmaceutical Sciences	1-3
PHRS 802	Drug Development and Professional Skills Development	1
PHRS 815	Foundations in Implementation Science: Examples in Precision Health and Society	1.5
PHRS 899	Seminar in Pharmaceutical Sciences	1
PHRS 991	Research in Pharmaceutical Sciences	1-9
PHRS 994	Doctoral Research and Dissertation	3
Statistics electives		9
Approved elective courses		9

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/pharmacodynamics/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.

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		

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.

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

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.

Code	Title	Hours
PHRS 700	Making Medicines ¹	0.5
PHRS 701	Fundamentals of Regulatory Affairs ¹	2
PHRS 702	Preclinical Development ¹	2
PHRS 703	Chemistry, Manufacturing, and Controls ¹	2
PHRS 704	Clinical Development ¹	2
PHRS 705	Postmarketing Topics ¹	2
PHRS 710	Biostatistics ¹	1
PHRS 711	Emerging Topics in Regulatory Science ¹	2
PHRS 810	Regulatory Communication ²	2
PHRS 811	Regulatory Strategy ²	2
PHRS 890	Special Topics in Pharmaceutical Sciences (Seminar Series) ²	1
PHRS 991	Research in Pharmaceutical Sciences	1-9
PHRS 992	Master's (Non-Thesis)	3
PHRS 993	Master's Research and Thesis	3
GRAD 712	Leadership in the Workplace ²	1.5
GRAD 713	Project Management: Frameworks, Principles and Techniques ²	1.5
GRAD 725	Build Your Professional Brand ²	1.5
GRAD 727	Team Collaboration ²	1.5
GRAD 758	Managing People and Professional Relationships ²	1.5

Master of Science in Global Medicines Development

The Master of Global Medicines Development (MGMD) is a first-of-its-kind joint degree offered by the UNC Eshelman School of Pharmacy and the Monash University Faculty of Pharmacy and Pharmaceutical Sciences, two of the highest-ranked institutions in pharmacy and pharmacology worldwide.

Designed to prepare future leaders in global medicines development, the program equips students with the knowledge and skills required to bring medicines to global markets. Students learn from expert faculty at both institutions while studying in person at Monash University in Melbourne.

The curriculum integrates classroom-based coursework during the first two semesters, followed by a hands-on experiential placement and capstone project in either Melbourne or North Carolina's Research Triangle Park during the third semester. Throughout the program, students develop leadership, communication, teamwork, regulatory insight, artificial intelligence (AI) literacy and the ability to make ethical, data-driven decisions essential for success in the global pharmaceutical landscape. Graduates are well prepared for impactful roles across pharmaceutical and biotechnology companies, global health and regulatory organizations, international supply chain management, academic and policy research, consulting, and related sectors.

Code	Title	Hours
PHRS 740	Fundamentals of Global Regulatory Affairs	3
PHRS 741	Global Leadership in the Pharmaceutical Sciences	3
PHRS 742	Emerging Topics in Global Regulatory Science	3
PHRS 743	Financial and Data Management in Global Medicines Development	3
MONU 750	II AT MONU (G) (MPS5101: Overview of Drug Discovery and Development) ⁴	3
MONU 760	II AT MONU (G) (MPS5303: Career Tools: Bridging the Gap) ⁴	3
MONU 770	II AT MONU (G) (MPS5201: Drug Stories – Lessons from the past and now) ⁴	3
MONU 780	II AT MONU (G) (MPS5202: From Ideas to Medicines – Investigator Perspectives) ⁴	3
MONU 790	II AT MONU (G) (MPS5401: Professional Placement and Research Project) ⁴	12

¹ Asynchronous.

² Synchronous.

³ Practicum.

⁴ Variable credit.

Find our world renowned faculty listed [here \(https://pharmacy.unc.edu/about/faculty-and-staff/\)](https://pharmacy.unc.edu/about/faculty-and-staff/).

Contact Information

UNC Eshelman School of Pharmacy

Visit Program Website (<http://pharmacy.unc.edu>)

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Jacqui McLaughlin, PhD

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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.

Courses

Numbered 400-999:

- Philosophy (PHIL) (<https://catalog.unc.edu/courses/phil/>)

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
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

Daniel Muñoz (58), Ethics, Philosophy of Action

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

Andrew Rubner (67), Philosophy of Cognitive Science, Philosophy of Mind

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

Contact Information

Department of Philosophy

Visit Program Website (<http://philosophy.unc.edu>)

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Chair

Matthew Kotzen

kotzen@email.unc.edu

Director of Graduate Studies

Alexander Worsnip

aworsnip@unc.edu

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.

Courses

Numbered 700-999:

- Physician Assistant Studies (PASC) (<https://catalog.unc.edu/courses/pasc/>)

NOTE: Not all courses are offered every year/every term. Students should check with the DGS or SSM before registering for classes.

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.

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

Chair of Admissions

Nicole Mihailovich, MHS, PA-C, Clinical Assistant Professor

Faculty

Adam Ballance, MS, PA-C, Clinical Assistant Professor

Amy Hird, PA-C, MMS, MHPE, Clinical Assistant Professor

Ben Thompson, MHS, PA-C, Clinical Assistant Professor

Adjunct Faculty

Kunal Jakharia, MD, Assistant Professor

Contact Information

Department of Physician Assistant Studies

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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 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	4
MATH 528	Mathematical Methods for the Physical Sciences I	3
Total Hours		37

^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 \$22,500 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/>).

Courses

Numbered 400-999:

- Astronomy (ASTR) (<https://catalog.unc.edu/courses/astr/>)
- Physics (PHYS) (<https://catalog.unc.edu/courses/phys/>)

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

Amy Lynn Josefsberg, Biological and Medical Physics, Biophotonics

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

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

Gökçe Başar, Theoretical Nuclear and Particle Physics

Julieta Gruszko, Experimental Neutrino Physics

Andrew W. Mann, Observational Astronomy, Stars and Exoplanets

Amy Nicole Nicholson, Theoretical Nuclear Physics, Computational Lattice Quantum Chromodynamics

Assistant Professors

Igor Andreoni, Observational Astronomy

Carl Rodriguez, Computational and Theoretical Astrophysics, Stars, Black Holes, and Gravitational Waves

Mengen Wang, Computational Materials Science

Wei Zhang, Experimental Condensed Matter Physics, Materials Science

Research Professor

Arthur E. Champagne, Experimental Nuclear Physics and Astrophysics

Robert Victor Janssens, Experimental Nuclear Physics

Research Associate Professor

Christina Redmon Inscoc, Medical Physics

Research Assistant Professor

Yue Qiu, Quantum Field Theory, Quantum Gravity, Cosmology

Teaching Professors

Duane Deardorff, Physics Education Research

Teaching Associate Professors

Colin Wallace, Physics Education Research

Jennifer Weinberg-Wolf, Physics Education Research

Teaching Assistant Professors

Alia Hamdan, Physics Education Research

John Hansen, Physics Education Research

Muxin Zhang, Physics Education Research

Adjunct Professors

Gerald N. Cecil, Observational Astrophysics

Steven Mark Christensen, Gravitation, Quantum Field Theory, Black Holes, Cosmology

Brand Fortner, Astrophysics

Yosuke Kanai, Condensed Matter Physics, Chemical and Material Physics

Alfred Kleinhammes, Condensed Matter Physics, Materials Science

Laurie E. McNeil, Condensed Matter Physics

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

Rafael Da Silva De Souza, Astrophysics

Stefan Jeglinski, Physics Education Research

David B. Hill, Biophysics

Yueh Z. Lee, Medical Physics

Thomas Osburn, Gravity, Relativity, Theoretical Astrophysics

Professors Emeriti

Charles 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

Lu-Chang Qin

James A. Rose

William J. Thompson

Sean Washburn

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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 (CSEES) 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, CSEES 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.

Courses

Numbered 400-999:

- Political Science (POLI) (<https://catalog.unc.edu/courses/poli/>)

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

Marc Hetherington (21), American Politics, Political Behavior

Liesbet Hooghe (04), Comparative Politics, European Union, Western European 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

Ashley Anderson (63), Comparative Politics, Middle Eastern and North African Politics

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

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

Amanuel Gebremichael (48), American Politics

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

Jonathan Hartlyn

Michele Hoyman

Evelyne Huber

Michael Lienesch

Stuart Elaine Macdonald

Michael MacKuen

Timothy McKeown

Lars Schoultz

John Stephens

James Stimson

James White

Contact Information

Department of Political Science

Visit Program Website (<https://politicalscience.unc.edu/>)

Chair

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Director of Graduate Studies

Evelyne Huber

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Graduate Coordinator

Kalisha-Lourdy Lazare

kalishal@unc.edu

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.

Courses

Numbered 400-999:

- Psychology (PSYC) (<https://catalog.unc.edu/courses/psyc/>)

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

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
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

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, Political Polarization

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

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 Changing 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

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

Director of Graduate Studies

Keith Payne

bkpayne@email.unc.edu

Assistant Professors

Kelsey Bonfils (012), Schizophrenia-Spectrum and Other Serious Mental Disorders

Dan Christoffel (242), Circuit Mechanisms of Consummatory and Reward Behaviors, Experience-Dependent Plasticity, Physiology, Stress

Julian Rucker (153), Racial inequality and Discrimination

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

Jamilah Silver (011), Irritability and Early Childhood Psychopathology, Early Onset Mental Disorders

Clinical Professors

Jennifer Kirby (214), Couple Therapy, Individual Psychopathology, and Couple Functioning; Health Concerns in a Couple/Family Context

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

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Associate Chair

Deborah Jones

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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* 2026–2027 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 and Practice (<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://hpd.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/percc/>), 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 14-credit curriculum spans our 11 concentrations. Students in the M.P.H. degree program also undergo extensive field training.

Requirements for:

Applied Epidemiology Concentration (p. 171)

Environment, Climate, and Health Concentration (p. 165)

Global Health Concentration (p. 197)

Health Behavior Concentration (p. 197)

Health Policy Concentration (p. 203)

Health Equity and Social Justice Concentration (p. 197)

Maternal, Child, and Family Health Concentration (p. 223)

Leadership in Practice Concentration (p. 290)

Nutrition, Food Systems and Health Concentration (p. 253)

Nutrition and Dietetics Concentration (p. 253)

Population Health for Clinicians Concentration (p. 290)

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, Law School and School of Government.

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>)
sph-admissions@unc.edu
(919) 445-1170

Dean and Bryson Distinguished Professor in Public Health

Nancy Messonnier
uncsphdean@unc.edu

Associate Dean for Academic Affairs

Dana Rice
danarice@unc.edu

Associate Dean for Student Affairs

Charletta Sims Evans
simsevan@email.unc.edu

PUBLIC HEALTH LEADERSHIP PROGRAM (GRAD)

The Public 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 in Leadership in Practice, and Population Health for Clinicians. Additionally, PHLP also co-leads the Global Health concentration.

Certificates

The online graduate Global Health Certificate (p. 42) examines the complexities inherent in improving health on a global scale. This program (<https://sph.unc.edu/phlp/phlp-degrees-and-certificates/phlp-online-global-health-certificate/>) is an interdisciplinary 9-credit course of study that examines the complexities inherent in improving health on a global scale.

The online graduate Certificate in Public Health Leadership (p. 52) is beneficial to a wide variety of professionals who desire to enhance their leadership skills and potential. This program (<https://sph.unc.edu/phlp/phlp-degrees-and-certificates/phlp-public-health-leadership-certificate/>) is a 9-credit course of study covering the core competencies of leadership.

Courses

Numbered 400-999:

- Public Health (PUBH) (<https://catalog.unc.edu/courses/pubh/>)

NOTE: 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.

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 or BIOS 600	Data Analysis for Public Health Principles of Statistical Inference	2
SPHG 712 or EPID 600	Methods and Measures for Public Health Practice Principles of Epidemiology for Public Health	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 718	Systems and Design Thinking for Public Health Leaders	3
PUBH 730	Leading Continuous Quality Improvement (CQI) in Public Health Locally And Globally	3
PUBH 748	Leadership in Health Policy for Social Justice	3
PUBH 781	Leading community change in public health practice: Engagement, organizing and collaboration	3
PUBH 791	Core Principles in Public Health Leadership	3
M.P.H. Electives		
Electives (Graduate-level courses, 400+ level at Gillings, 500+ level at UNC); 9 credit hours minimum		9
M.P.H. Culminating Experience		
PUBH 992 or SPHG 992	Master's (Non-Thesis) 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 a dynamic program that delivers a rigorous, comprehensive public health education designed specifically for professionals with medical or clinical training who are ready to elevate their impact. The program is specifically designed to equip healthcare students and professionals with advanced public health knowledge and leadership skills needed to serve their communities and drive meaningful change. The concentration offers a unique interdisciplinary focus on clinical, prevention, population and policy sciences, enabling students to translate public health principles into policy and practice.

Developed with the needs of clinical professionals in mind, our curriculum focuses on several areas relevant to improving population health:

prevention, critical appraisal of the health literature, evidence-based practices, research translatable to clinical practice areas and United States health system policy.

Course Requirements

Code	Title	Hours
M.P.H. Core & Concentration		
BIOS 641	Quantitative Methods for Health Care Professionals I	4
EPID 702	Systematic Review	2
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 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 786	Health System Functions and Key Challenges	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 credit hours minimum		12
M.P.H. Culminating Experience		
PUBH 992	Master's (Non-Thesis)	3
or SPHG 992	Master's (Non-Thesis)	
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/#doctoraldegree/text>.

Professors of the Practice

Rhonda Stephens, MPH Concentration Co-Lead (Population Health for Clinicians), Certificate Director, Public Health Leadership, Dental Public Health

Vaughn Upshaw, Department Chair, Public Health Leadership, Online Education

Professors

Amy Joy Lanou, Public Health Leadership, NC Institute for Public Health Director

Associate Professors

Lori A. Evarts, Associate Chair for Academics, Public Health Leadership, Project Management, Team Effectiveness, Clinical Research, Leadership, Online Education

William Oscar Fleming, Public Health Leadership, Co-Lead DrPH (Public Health Executive Leadership)

Dilshad Jaff, Public Health Leadership, Co-Lead Humanitarian Health Alliance

Aimee McHale, MPH Concentration Lead (Leadership in Practice), Public Health Leadership, Online Education

Kim Ramsey-White, Public Health Leadership, Associate Dean for Well-Being

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, MPH Concentration Co-Lead (Global Health)

Ellison Henry, Public Health Leadership

Karl T. Johnson, Public Health Leadership, PHLP Certificate Director (Public Health Leadership Certificate)

Laura Villa Torres, Public Health Leadership, Migrant Health, PHLP Certificate Director (Global Health)

Minzhi Xing, MPH Concentration Co-Lead (Population Health for Clinicians), Public Health Leadership, Health Services Research

Adjunct Professors

Sarah Archer, Public Health Leadership

Timothy Gabel, Population Health for Clinicians

Russell Harris, #Public Health Leadership

Linda Kinsinger, Public Health Leadership

Kody H. Kinsley, Public Health Leadership

Rohit Ramaswamy, Public Health Leadership, Global Health

Paula Brown Stafford, Public Health Leadership

Weiming Tang, Senior Research Advisor, Medicine, Global Health

Anthony J. Viera, Population Health for Clinicians

Sanjay Zodpey, Public Health Leadership

Adjunct Associate Professors

Gary Asher, Population Health for Clinicians

Ameena Batada, #Public Health Leadership, Rural Health

Lori Carter-Edwards, Public Health Leadership

Paul Crews, Public Health Leadership

William Donigan, Public Health Leadership, Dentistry

Mary Harrison, Public Health Leadership

Manish Kumar, Public Health Leadership

Gita Mody, Public Health Leadership

Jacqueline Olich, #Practicum Placements, Leadership, Global Online

Isabel Roth, Public Health Leadership

Adjunct Assistant Professors

Shannon Aymes, Population Health for Clinicians

Erin Braasch, #Public Health Leadership

Linnea Carlson, Public Health Leadership

Donna Dinkin, #Public Health Leadership

Robert Doherty, Public Health Leadership, Dentistry

Genevieve Embree, #Public Health Leadership

Tiffany Farina, #Public Health Leadership

Cynthia Feltner, Population Health for Clinicians

Adam Gilbertson, 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

Ashley Jarrett, Public Health Leadership

Leila C. Kahwati, Public Health Leadership

Barbara Hovevar Kalkas, Public Health Leadership

Amy Kryston, Public Health Leadership

Heather Lanthorn, Public Health Leadership

Steve Orton, Public Health Leadership

Jennifer Platt, Public Health Leadership

Megan Richardson, Public Health Leadership, PHLP Mentoring Director

Danny Scalise, Public Health Leadership

Sarah Brill Thach, Public Health Leadership, Rural Health

Amy Belflower Thomas, #Public Health Leadership

Eugenia Upchurch, Public Health Leadership

Gretchen Van Vliet, #Public Health Leadership, Global Health

Katie Varnadoe, Public Health Leadership

Meera Viswanathan, #Public Health Leadership

John Wallace, Public Health Leadership

Stephanie Watson-Grant, Public Health Leadership

Rachel A. Wilfert, #Public Health Leadership

Richard Zink, #Public Health Leadership

Adjunct Instructors

Carol Breland, Public Health Leadership, Online Education

Eleanor Green, Public Health Leadership

Natasha Hughes, Public Health Leadership

Makala Carrington, #Public Health Leadership

Ellis Matheson, Public Health Leadership

Michael Zelek, 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

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, Rico-Straffon)

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, Handa, Hemelt, Kim, Kreitzer, Krome-Lukens, Moulton, Preiss, Rico-Straffon, Rubalcaba, Schechtel)

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, 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: Handa, Meier, Najam, Rico-Straffon, 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. Students who have completed coursework in calculus, introductory microeconomics, and introductory statistics will be best prepared for our core curriculum. However, exemplary applicants without this math and economics coursework may be admitted to the program with the expectation that they prepare themselves adequately for the math expectations prior to matriculation.

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.

Courses

Numbered 400-999:

- Public Policy (PLCY) (<https://catalog.unc.edu/courses/plcy/>)

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 seminar (1 credit)

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

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

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, Ethics and Public Policy, Bioethics, Health Policy

Benjamin Mason Meier, Global Health Policy, Justice and Policy

Patricia L. Sullivan, International Security, Comparative Politics, National Security Policy

Associate Professors

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

Jimena Rico-Straffon, Environmental and Resource Economics, Development Economics, Labor Economics, Water Policy, Gender and Inequality

Manuel Schechtel, Social Stratification, Wealth Inequality

Teaching Professors

Anna Krome-Lukens, History and Public Policy, Welfare Policy, Higher Education, Food Policy

Teaching Associate Professors

William Goldsmith, History and Public Policy, Education Policy, Economic Development 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

Contact Information

Department of Public Policy

Visit Program Website (<http://publicpolicy.unc.edu>)

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MPP Program Coordinator

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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.

Courses

Numbered 400-999:

- Religious Studies (RELI) (<https://catalog.unc.edu/courses/reli/>)
- Jewish Studies (JWST) (<https://catalog.unc.edu/courses/jwst/>)

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 one or two modern foreign research languages (depending on sub-field), 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

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 Pleše (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

James Rives, Ancient Mediterranean Religions

Omid Safi, Islamic Studies

Adjunct Associate Professors

Christian O. Lundberg, Critical Cultural Theory, Rhetoric, Cultural Studies

Margaret Wiener, Indonesian Religions

Professors Emeriti

Bart D. Ehrman

Carl W. Ernst

David Halperin

Peter I. Kaufman

Laurie Maffly-Kipp

Jack M. Sasson

John Van Seters

Contact Information

Department of Religious Studies

Visit Program Website (<http://religion.unc.edu>)

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Student Services Manager, Registrar

Myra Boykin

myboykin@unc.edu

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 Latin 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.

Courses

Numbered 400-999:

- Catalan (CATA) (<https://catalog.unc.edu/courses/cata/>)
- French (FREN) (<https://catalog.unc.edu/courses/fren/>)
- Italian (ITAL) (<https://catalog.unc.edu/courses/ital/>)
- Portuguese (PORT) (<https://catalog.unc.edu/courses/port/>)

- Romance Languages (ROML) (<https://catalog.unc.edu/courses/roml/>)
- Spanish (SPAN) (<https://catalog.unc.edu/courses/span/>)

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. Depending on the program, 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 Guaraní 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
Irene Gómez Castellano (13), 18th-21st Century Spanish Literature and Culture, Poetry and Visual Arts
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
Carmen Hsu (01), 16th- and 17th-Century Spanish Literature and Culture, Theater, Humanism, National/Cultural Identity, Literatures in North Europe, Asia, and Africa

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

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

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

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Visit Program Website (<http://romancestudies.unc.edu>)

Chair

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Director of Graduate Studies

Lamar Graham

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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.

Courses

Numbered 400-999:

- Social Work (SOWO) (<https://catalog.unc.edu/courses/sowo/>)

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	3
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	3
SOWO 841	Child and Adolescent Mental Health: Theory and Practice	
SOWO 842	Families: Theory and Practice	
SOWO 843	Older Adults: Theory and Practice	3
SOWO 845	Health: Theory and Practice	
SOWO 874	Administrative and Management: Theory and Practice	3
SOWO 875	Interorganizational and Community-Level Theory and Practice	
SOWO 881	Development Theory and Practice in Global Settings	1.5
Specialization Policy Course – Students choose one from the following courses:		

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.		
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. 26) 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 841	Child and Adolescent Mental Health: Theory and Practice	
or SOWO 874	Administrative and Management: Theory and Practice	
or SOWO 881	Development Theory and Practice in Global Settings	
Specialization Policy Course:		3
SOWO 833	Social Work and Policy Practice: Theory, Analysis and Advocacy	
Specialization Practicum - Students choose to complete their specialization practicum in three semesters (SOWO 822, 823, 824) (16 hours per week)		12
SOWO 822 & SOWO 823 & SOWO 824	Online MSW Program Specialization Practicum I and Online MSW Program Specialization Practicum II and Online MSW Program Specialization Practicum III	
or in two semesters (SOWO 820 and 821) (24 hours per week)		
SOWO 820	Social Work Specialization Practicum I	
or 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.		
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. 26) 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	3
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	3
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	1.5
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	12
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. 26) 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 Substiute		
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. 26) 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 Well-Being, Migration and Adaptation, High Intensity Provider Preparation for Working with Diverse Populations, Mental Health Service Use, Visual and Arts-Based Methods and Interventions, Conflict, Higher Education

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

Paul J. Lanier (027), Child Maltreatment Prevention, Child Well-Being, Parenting, Evidence-Based Practice

Eric Rice (123) Homelessness, Young Adult Homelessness, Artificial Intelligence, Social Networks, Social Network Theory, Social Network Analysis, Community-Engaged Research, HIV Prevention, Suicide

Prevention, Violence Prevention, Substance Use and Misuse, Quantitative Methods

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

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

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 Professors

Mathieu R. Despard (191), Financial Determinants of Health, Financial Inclusion and Technology, Household Economic Security, Precarious Employment, Social Welfare and Tax Policy, Student Debt

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

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

Sarah E. (Betsy) Bledsoe (202), Mental Health Services, Intervention, Mixed Methods and Translational Research, Engaged and Community Based Participatory Research, Implementation Science, Perinatal, Maternal, Child, Adolescent and Family Mental Health, Mood, Anxiety, and Trauma Related Disorders, Access and Engagement in Health Care, Evidence-Based Practice, Workforce Development

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, Depression, Suicidality, Suicide Prevention, Health Disparities, 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

Clinical Associate Professors

Deborah Barrett (246), Direct Practice, Chronic Pain, Dialectical Behavioral Therapy, Mindfulness, Group Work

Charles K. Chear (160), Economic and Geographic Mobility, Poverty, Housing, Policy, Information Technology, Social Media Data, and Block Grants

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

Atensia Earp Bowen (110), Mental Health and Behavioral Health, Clinical Social Work Practice, Clinical Supervision, Social Work Curriculum, Administration and Management, Technology and Instructional Design

Kimberly Hogan (140), Human Trafficking & Exploitation, Survivor-Centered & Trauma-Informed Practice, Program Evaluation & Applied

Research, Community-Based Partnerships, Service-Learning & Experiential Education, Social Justice & Systems Change

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

Shani K. Saxon (130), Critical Theories, Intersectionality, Mental Health Disparities and Wellbeing Among Black Women, Social Justice & Equity in Social Work Practice, Human development and Behavior, Culturally and Community Relevant Practices, Substance Misuse and Addiction in Black Women, Black Health and Healing, Interconnections Between Mental and Physical Health, Stress and Coping, Mindfulness and Heartfulness, Holistic Well-Being Across the Life Course, Impact of Indigenous Healing Circles and Racial Trauma

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, Kinship Care

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, Administrative Data, Youth Aging Out of Foster Care, Trauma-Informed Care, Human Trafficking

Tonya B. Van Deinse (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, Culturally Inclusive Interventions, Black Youth Suicide Prevention and Intervention Development, 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

Agha Erum (226), Services for Immigrant and Refugee Populations, Cultural Adaptation of Interventions, Social Work with Communities, Treatment of Trauma, Public Mental Health

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

Lakisha C. Brown (150) Clinical Practice with Children, Trauma, School Social Work, Practicum Education, Adolescents and Families, School-Based Mental Health, Juvenile Justice, Faith and Spirituality in Social Work Practice

Katrice L. Byrd (195), Suicide Prevention with Military#Connected Populations, Lethal Means Safety Counseling, Military Culture and Transitions, Child, Adolescent, Adult & Family Mental Health, Emotional Intelligence, Clinical Supervision, Leadership & Ethics in Social Work; Integration of Storytelling in Evidence#Based Practice, Social Determinants of Health, and Trauma-Informed Support Interventions

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 African American Women, Trust Among African American Women and Their Healthcare Providers, Spirituality and Cultural Humility in Healthcare, and African American Women and Menopause

Tyrek T. Corry (128), Mental Health and Well-Being in Black Men, Social and Racial Justice, Faith and Spirituality in Social Work Practice, Trauma-Informed Practices and Collective Trauma, Culturally Responsive and Anti-Oppressive Practices, Mental Health Policy, Advocacy, and Systems Change, Structural Racism and Social Determinants of Health

Tierra L. Daniels (162), Young Black Mothers Ages 18–24 and Their Transition Out of Homelessness, Children and Families, Child Welfare, Homelessness, Mental Health and Well-Being, Community Engagement, Practicum Education, Non-Profits

Matthew Diehl (244), Evidence-Based Mental Health Practices, Community Inclusion, Disability Rights, Practicum Education, Cultural Humility, Social Justice

Alyssa Draffin (204), Psychedelic Assisted Therapy, Differential Diagnostics, Women's Mood Disorders, Somatic Impact of Trauma, Psychosis, Direct Practice for Adults, Neurobiology of Trauma, Alternative Therapies, Epigenetics, Trauma-Informed Healthcare.

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

Luzelly Frias (190), Perinatal Mental Health, Social Determinants of Health, Medical Social Work, Refugee Resettlement, Immigration Trauma, Private Practice, Community Mental Health, Complex Care Management, Latinx/e Mental Health

Sasha Frinzi (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

Jay Jahnes (175), Clinical Practice with Children, Adolescents and Families, Trauma-Informed Care, Evidence-Based Mental Health Practices, Clinical Supervision, Community Mental Health

Karon F. Johnson (229), Trauma-Informed and Somatic-focused Practice, Grief and Loss, Crisis Intervention, Spirituality and Social Work, Practical Theology, Interprofessional Learning and Practice Between Social Work and Chaplaincy, 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

Mathieu McNeil (139), Community Mental Health, Mindfulness, Men's Health, Health Disparities, Mental Health and Well-Being with Black Men, Community-Based Interventions and Mental Health, Social Policy, Spirituality and Social Work Practice, Eastern Medicine, Movement, Yoga

Heidi E. McNeilly (163)
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, School-to-Prison Pipeline, Neurodiversity, Disability Rights, Universal Design for Learning, Anti-Racist & Anti-Oppressive Practice, Intergroup Dialogue, Organizational Behavior & Systems Change, Systems & Implementation Sciences, Program Development, Implementation, 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

Arlana E. Speller (120), Hospital-Based Clinical Social Work and Interdisciplinary Care, Social Work Practicum Education, Crisis

Intervention, Behavioral Health Case Management, Community Mental Health, Social Work with Children and Families

Christopher Toenes (257), Adult Mental Health Practice, Psychotherapy, Substance Use Treatment, Harm Reduction, Trauma Treatment Modalities, Trauma-Informed Care, Grief and Loss, Culturally Responsive Practice, Anti-Oppressive Clinical Practice, Clinical Practice with Members of LGBTQIA Community, Racial Equity and Access

Monique E. Tuset (154), Higher Education Access, Career Development, Social Capital, Nonprofit Leadership

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, Health 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

Hannah A. Silverstein (138), Impact Evaluation, Social Protection, Disability, and Child Wellbeing.

Clinical Instructors

Adam Pierson Milano (145), Military Social Work, Global Social Work, Crisis Response, Student Veteran Mental Health, Mental Health in Higher Education, Storytelling, Mentorship, Disaster Mental Health, Public Speaking

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

Contact Information

School of Social Work

Visit Program Website (<http://ssw.unc.edu>)

Dean

Ramona Denby-Brinson

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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, migration, health, 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.

Courses

Numbered 400-999:

- Sociology (SOCL) (<https://catalog.unc.edu/courses/soci/>)

Professors

Kenneth A. Bollen, Comparative Political Structures, Statistics, International Development

Neal Caren, Social Movements/Collective Action

David Cook-Martin, Political Sociology, Race and Ethnicity, Sociology of Law, Labor, Immigration and Migration, International Sociology, Citizenship

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

Associate Professors

Regina Baker, Poverty, Stratification and Inequality, Family, Race, Policy

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, Race, Political Sociology, Media, Quantitative Methods

Lauren Gaydosh, Life Course, Biosocial Perspectives, Health Disparities, Race, Population

Shannon Malone Gonzalez, Crime, Law and Deviance, Race and Ethnicity, Gender, Family

Carmen Gutierrez, Stratification, Policy, Health, Crime, Law, and Deviance, Race and Ethnicity, Migration

Tania Jenkins, Medical Sociology, Health and Illness; Work, Occupations, Labor Markets; Stratification, Gender, Ethnography

Elizabeth Korver-Glenn, Urban Sociology, Race, Stratification, Environment, Neighborhoods, Qualitative Methods

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

Rui Jie Peng, Ethnography, Migration, Gender, Labor, Development, Transnational and Global Sociology

Kerilyn Schewel, Migration, Rural Sociology, Sociology of Development

Justin Sola, Inequality, Gun Ownership, Crime, Law, and Deviance,

Sociology of Law, Experimental and Computational Methods

Lauren Valentino, Cultural Sociology, Stratification, Discrimination, Poverty, Mixed Methods, Gender

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

Thurston Domina, School of Education

Gail Henderson, Social Medicine

James H. Johnson Jr., Kenan-Flagler Business School

John D. Kasarda, Kenan-Flagler Business School

Douglas Lauen, Public Policy

Tressie McMillan Cottom, School of Information and Library Sciences

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

Sherry Kleinman

S. Philip Morgan
Anthony R. Oberschall
John Shelton Reed
Ronald R. Rindfuss
Peter R. Uhlenberg

Contact Information

Department of Sociology

Visit Program Website (<http://sociology.unc.edu>)

Chair

Lisa Pearce
ldpearce@email.unc.edu

Director of Graduate Studies

Scott Duxbury
duxbury@unc.edu

Student Services Manager

Kelsie Taylor
kelsiet@email.unc.edu

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/>).

Courses

Numbered 400-999:

- Speech and Hearing Sciences (SPHS) (<https://catalog.unc.edu/courses/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 speech-language 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 and 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 Clinical 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	Professional Development In Person-Centered Care	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 choose 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 802	Problems in Speech and Hearing Sciences	1-3
SPHS 889	Autism and Other Developmental Disabilities in Children Who Are Deaf or Hard of Hearing II	1
SPHS 841	Seminar in Speech-Language Pathology	.50-15

Milestones

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (p. 26) 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/AUD Project 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 714	Current Issues in Participatory Research: A Workshop Course	
ANTH 898	Seminar in Selected Topics	
BIOS 635	Introduction to Machine Learning	
EDMX 762	Advanced Emergent and Early Literacy	
EDUC 710	Introductory Statistical Methods	
EDUC 762	Diagnosis of Psychological Disorders and Treatment Planning	
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	Qualitative Research Methods I: Philosophical Foundations of Qualitative Research	
EDUC 850	Change Leadership and Systems Improvement	
EDUC 861	Seminar in Special Education	
EDUC 868	Qualitative Research II: Data Collection	
EDUC 878	Seminar in Educational Studies	
EDUC 888	Introduction to Structural Modeling	
EDUC 922	Mixed Methods Research	
EDUC 923	Design Based Research	
EDUC 935	Multilevel Modeling	
EPID 710	Fundamentals of Epidemiology	
HSCI 862	Developmental Disabilities Across the Lifespan I: An Interdisciplinary Approach	
HSCI 864	Developmental Disabilities Across the Lifespan II: An Interdisciplinary Approach	
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 916	Developmental Disabilities: Current Research and Practice II	
HSCI 917	Introduction to Biobehavioral Methods in Health Sciences	
INLS 613	Text Mining	
INLS 732	Children's Literature and Related Materials	
LING 401	 Introduction to Computational Linguistics	
LING 530	Syntactic Theory I	
NBIO 801	Clinical Syndromes and Neurodevelopmental Disorders	
NURS 710	Developmental Physiology and Pathophysiology	

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
OCSC 896	Independent Study in Occupational Science
POLI 861	Questionnaire Design
PSYC 744	Psycholinguistics
PSYC 791	Special Readings in Psychology
PSYC 830	Statistical Methods in Psychology I
PSYC 833	Intensive Longitudinal Analysis
PSYC 847	Advanced Topics in Quantitative Psychology: Measurement
SPHS 740	Principles of Prevention, Assessment, and Intervention in Speech-Pathology
SPHS 741	Neuroanatomy
SPHS 742	Aphasia
SPHS 743	Pediatric Speech Disorders
SPHS 744	Motor Speech Disorders
SPHS 745	Cognitive Communication Disorders Across the Lifespan
SPHS 748	Voice Disorders
SPHS 749	Evaluation and Clinical Management of Persons with Oral-Facial Anomalies
SPHS 751	Global Issues and Practices in Communication Disorders
SPHS 752	Seminar in Medical Speech Language Pathology
SPHS 754	Dysphagia
SPHS 760	Neurologic Communication Disorders in Adults
SPHS 761	Child Communication Disorders
SPHS 762	Language Impairments in School Age Children
SPHS 765	Augmentative and Alternative Communication
SPHS 776	Ethical Practice Policies and Guidelines
SPHS 777	Contemporary Professional Issues in Education
SPHS 778	Professional Development In Person-Centered Care
SPHS 779	Professional Practice Issues in Speech-Language Pathology
SPHS 792	Pediatric Dysphagia
SPHS 802	Problems in Speech and Hearing Sciences
SPHS 803	Audiologic Rehabilitation for Children
SPHS 804	Audiologic Rehabilitation for Adults
SPHS 805	Auditory Verbal Therapy
SPHS 806	Seminar in Early Intervention
SPHS 808	Seminar in Audiologic Rehabilitation
SPHS 809	Introduction to Cochlear Implants
SPHS 811	Pediatric Audiology
SPHS 812	Pediatric Amplification and Assistive Listening Devices
SPHS 830	Independent Study
SPHS 832	Speech Acoustics
SPHS 833	Special Topics
SPHS 834	Counseling and Communication Disorders
SPHS 840	Aging and Communication Disorders
SPHS 841	Seminar in Speech-Language Pathology

SPHS 849	Fluency Disorders
SPHS 850	Language Disorders Encountered in Audiology
SPHS 851	Speech Disorders Encountered in Audiology
SPHS 852	Speech and Language Disorders Encountered in Audiology
SPHS 860	Seminar on Early Communication Disorders
SPHS 861	Seminar in Language and Language Disorders
SPHS 863	Listening and Spoken Language Development and Intervention
SPHS 864	Speech and Language Impairments of Children
SPHS 880	Autism Seminar
SPHS 882	Seminar in Speech Science
SPHS 888	Autism and Other Developmental Disabilities in Children Who Are Deaf or Hard of Hearing I
SPHS 889	Autism and Other Developmental Disabilities in Children Who Are Deaf or Hard of Hearing II
SPHS 896	North Carolina Service Learning Trip
SPHS 897	Autism Seminar
SPHS 898	Literacy
SPHS 900	Research Design
SPHS 901	Seminar in Single Subject and Survey Research
SPHS 902	Research in the Context of the Evidence-Based Practice Movement in Early Intervention
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. 26) 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
- Doctoral Research Experience
- Doctoral Competency Review
- Doctoral Research Presentation

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

Adjunct Instructors

Celicia Benitez, Medical Speech-Language Pathology

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

Margaret Strickler, 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

Contact Information

Division of Speech and Hearing Sciences

Visit Program Website (<https://www.med.unc.edu/healthsciences/sphs/>)

Division Director

Hannah Siburt

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Student Services Specialist

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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/>) 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.

Courses

Numbered 400-999:

- Statistics and Operational Research (STOR) (<https://catalog.unc.edu/courses/stor/>)

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, (Kenan Distinguished Professor,) Statistics, Fiducial Inference, Stochastic Processes
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
Kai Zhang, Mathematical Statistics, High Dimensional Inference, Inference After Variable Selection, Large Deviation, Quantum Computing
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

Zhengwu Zhang, Brain Connectomics, Medical Imaging, Machine Learning, Bayesian Statistics, Shape and Functional Data Analysis

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
Yao Li, Machine Learning, Deep Learning, Adversarial Examples, Recommender System
Mo Liu, Data-Driven Decision-Making, Statistical Learning and Active Learning for Operations Management
Patrick Lopatto, Probability Theory and Applications, Causal Inference, Random Matrix Theory
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
Fan Yao, Social Aspects of AI, Multi-Agent Modeling, Algorithmic Game Theory
Chudi Zhong, Interpretable Machine Learning, Human-Model Interaction
Hang Zhou, Statistical Modeling and Inference for Object Data, Functional Data with Complex Structure, Learning Theory, Dynamic Systems

Teaching Associate Professor

Oluremi Abayomi, Statistics, Data Science
Mario Giacomazzo, Statistics
Jeffrey McLean, Statistics

Teaching Assistant Professors

Teressa Bergland,
William Lassiter, Operations Research

Professor of the Practice

Glenn Sabin

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

Contact Information

Department of Statistics and Operations Research

Visit Program Website (<http://stat-or.unc.edu>)

Chair

Jan Hannig

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Director of Graduate Studies

Richard L. Smith

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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, gastrointestinal toxicology 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 and Environmental Medicine 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. 84). 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.

Courses

Numbered 700-999:

- Toxicology (TOXC) (<https://catalog.unc.edu/courses/toxc/>)

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	Cell Biology and Physiology in Health and Disease I	4.5
CBPH 853	Cell Biology and Physiology in Health and Disease II	4.5
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	4
GNET 646	Mouse Models of Human Disease	1
GNET 647	Human Genetics and Genomics	1
GNET 749	Practical RNA-Seq	2
MCRO 614	Immunobiology	3
PATH 723	Practical Considerations for Translational Research	2
PHCO 701	Introduction to Molecular Pharmacology	3
PHCO 702	Principles of Pharmacology and Physiology	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. 26) 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
 Terry Furey
 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
 Camille Ehre
 Folami Ideraabdullah
 Samir Kelada
 Jeffrey M. Macdonald
 Timothy P. Moran
 Celia Shiau
 Benjamin Vincent

Assistant Professors

Edward Bahnson
 Leon Coleman Jr.
 Elizabeth Corteselli
 Klarissa Dawniette Jackson
 Julia Rager
 Meghan Rebuli
 Imran Rizvi
 Johanna Smeekens
 Gregory Smith
 Erin Steinbach

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
 Bevin Blake
 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

Contact Information

Curriculum in Toxicology

Visit Program Website (<http://www.med.unc.edu/toxicology/>)

Director of the Curriculum in Toxicology & Environmental Medicine

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Written Examination Chair

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Business Services Coordinator and Student Services Manager

David Chapman
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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. 321)
- Resources: Campus Life (p. 324)
- Resources: Career Planning (p. 330)
- Resources: Health and Wellness (p. 331)
- Resources: Service and Leadership (p. 333)

RESOURCES: ACADEMIC AND RESEARCH

Thrive@Carolina Campus Hubs

Chloë 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.edu (grantbn@live.unc.edu)
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://heelife.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

Keisha Frederick, *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** 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/thinking-about-graduate-school/>), 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/resource/handshake/>).

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/resource/handshake/>). 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/ncsrl/>). 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/explore/graduate-and-family-apartments/>) 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/>).

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/>).

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)
fsl@unc.edu (email)

Fraternity and Sorority Life 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. ITS is dedicated to delivering reliable, secure and accessible information technology solutions and experiences to the University community.

For more information on free software, computer setups, and other tech services, visit the student Getting Started Guide (<https://its.unc.edu/get-started/>). To keep up with ITS throughout the year, follow @UNCTarHeelTech on (<https://www.instagram.com/unctarheeltech/>)

Instagram (<https://www.instagram.com/unctarheeltech/>), 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 (<https://adobe.unc.edu>). Request a free license to get started with digital imaging, video and audio editing, free stock photos, and more.
- Microsoft Copilot Chat (<https://copilot.cloud.microsoft/>). Copilot is an enterprise-level generative AI tool. Sign in with a UNC email address to get started.
- LinkedIn Learning (<https://go.unc.edu/linkedin/>). From public speaking to prompt engineering to Photoshop, LinkedIn Learning has it all and it's free after you create your LinkedIn Learning account with your Onyen.
- Web hosting. Make a WordPress website for class, a club or just for fun at tarheels.live (<https://tarheels.live/>).
- Password management (<https://lastpass.com/partnerpremium/uncch/>). Sign up for your free LastPass Premium account to generate, securely store and sync strong passwords across your devices
- And more! VisitSoftware at UNC and the Getting Started Guide (<https://its.unc.edu/get-started/>) to see what else ITS offers.

Carolina Computing Initiative

Undergraduate students are required to bring laptops that meet the University's minimum standards for their graduating class. The Carolina Computing Initiative (<https://cci.unc.edu>) (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 do not purchase a CCI machine are still required to bring a laptop that meets University technology requirements

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.

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 Carolina Print Hub (<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 visit in person in room 1506 of the Frank Porter Graham Student Union. ResNET: Residential Networking, Education, and Technology

ResNET: Residential Networking, Education, and Technology

ResNET (<https://resnet.unc.edu>) provides on-campus residents with on-site tech support and education. Residents are served by more than 50 live-in student techs who provide tech support to residents. Throughout the year, ResNET hosts educational events focused on showing new technology on campus. ResNET partners with Carolina Housing to support the Carolina Gaming Arena (<https://carolinagaming.unc.edu/>) for campus computer and console gameplay.

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 Student Ambassador's Program and direct support and advocacy to students, staff, and faculty.

New Student & Family Programs

Vance Hall, 3rd floor
172 E. Franklin Street
(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, Family Football Day, High Fives for Heels, communications through the UNC Family Experience portal, and family engagement opportunities, including the Carolina Parents Council.

NSFP provides paid student leadership opportunities across four student teams, including Orientation Leaders, the WOW Board, Project Coordinators, and Undergraduate Fellows.

Division of Student Success

Henry Owl Building
230 East Cameron Avenue
(919) 966-4045
studentaffairs@unc.edu

The Division of Student Success (<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. The division focuses on student experiences, academic excellence, and enrollment management. It comprises more than 1,000 professionals and 1,300 student staff in myriad roles.

The Division of Student Success 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 in 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 (<https://executivebranch.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/>). 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 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 (<https://www.chapelhillnc.gov/Transportation-and-Parking/Bus-Routes-and-Schedules/>) 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 (<https://www.chapelhillnc.gov/Home/>). In the case of an emergency, the University's P2P Emergency Ride Back (<https://move.unc.edu/transit/p2p/>) 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 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, 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/about/publications/bicycle-master-plan/appendix-g-bike-share/>) 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 (<https://move.unc.edu/commuter-alternatives/carpool/>) 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 University Compliance Office (<https://compliance.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/>) 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

University Compliance Office

University Compliance Office (UCO) (<https://eoc.unc.edu/>) assists the University community with disability, pregnancy, and religious accommodation requests, including auxiliary aids and services. UCO also offers training and consulting services to address any questions or accessibility needs. UCO 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 the UCO through the submission of an accommodation request form (https://unc.az1.qualtrics.com/jfe/form/SV_8ChSrWMwoqPmUSO/) on Accommodate (<https://compliance.unc.edu/access-and-accommodations/accommodate/>) and documentation.

The UCO 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 UCO website (<https://compliance.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 dietitians. 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 inquiries, 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.

University Policy Memorandums (UPMs)

University Policy Memorandums (UPMs) issued by the Office of the University Registrar were formerly used to communicate, clarify, or update administrative, academic, and operational policies and procedures. Following the conclusion of the Spring 2026 semester, UPMs were discontinued as an official document type. Current and authoritative policy content previously communicated through UPMs is now maintained in the University's policy repository and, where applicable, in academic program catalogs or handbooks. References to former UPMs are provided in the policy section of the Office of the University Registrar's website.

CREDIT AND EVALUATION

Awarding Transfer Credit

The University must receive an official transcript from the college or university with final grades for courses before transfer credit for approved courses is posted on the UNC-Chapel Hill record. In some cases, additional supporting documentation, such as course descriptions, syllabi, reading list, and assignments may be required from the student for approval of course credits and applicability to the student's UNC-Chapel Hill record. For students who have applied to graduate at UNC-Chapel Hill and expect to have transfer credit applied to final degree requirements, coursework must be completed in the comparable semester or term of graduation and the official transcript received within graduation clearance deadlines. Other sections of the University catalog provide additional details on the application of transfer credit to academic standing, degree requirements, and other relevant academic criteria.

Undergraduate transfer students can expect a review of the domestic transfer transcripts, accurate transfer equivalency information, and an initial transfer credit evaluation 15 business days after the offer of admission and UNC-Chapel Hill receiving all required official transcripts. Undergraduate transfer students with international transfer credit and/or those with four or more domestic transcripts, can expect a review of the domestic transfer transcripts, accurate transfer equivalency information, and an initial transfer credit evaluation 30 business days after the offer of admission and UNC-Chapel Hill receiving all required official transcripts. Final transfer credit evaluations will be completed once all official transcripts are received.

Current undergraduate students at UNC-Chapel Hill seeking to have future transfer credits applied towards their UNC degree, need to submit a course pre-approval form. Courses are reviewed for a specific term and preliminary evaluations are provided. It is recommended that students discuss the preliminary course approvals with their academic advisor to understand how the transfer credit fits into their degree requirements.

The following transfer credit rules apply to undergraduate students:

- Students must earn a grade of "C" or higher in all external courses to be approved for undergraduate transfer credit.
- Grades and quality points earned elsewhere are not computed into the UNC-Chapel Hill cumulative grade point average (GPA).
- The semester credit hours awarded by the external institution are transferred. Quarter hours or other credit scales will be converted into semester credit hours.
- Students should only submit a course approval request for the term in which they plan to attend and complete the course. #Approved courses taken outside of the term for which they were approved will not be honored in the event a transfer credit update or change is made.
- No additional transfer credit is posted to the student's record after the student has transferred the maximum limit of 75 hours. No

substitutions of transfer credit will be allowed. Transfer courses with no credit hours will not be granted.

Overall Guidelines for Evaluations of Undergraduate Transfer of Credit

The following guidelines align with the University's goals, national best practices, and AACRAO recommendations. The administrative offices such as Undergraduate Admissions and Undergraduate Curricula use these guidelines for the course content evaluation of undergraduate transfer credit.

A. The mode of instruction (e.g., online, asynchronous, in person) is not a factor in determining course equivalency.

B. A threshold of 70% content matching is used to determine UNC-Chapel Hill equivalency, unless otherwise needed for specific accreditation factors, discipline content (e.g., language or STEM courses in a sequence), or other discipline requirements.

- Language or STEM courses in a pre-requisite sequence at UNC-Chapel Hill may require additional justification of course rigor, on-campus equivalency test, or other supporting documentation before a direct course equivalency is approved.
- Focus Capacity Gen Ed courses at UNC-Chapel Hill require 1.) writing, 2.) presenting, and 3.) collaboration ("recurring capacities"). Checking for these "recurring capacities" is not a determining factor when evaluating a transfer course for equivalent credit. The content, learning objectives, and readings are weighted more heavily.
- Departments may require that specific upper-level major courses be taken at UNC-Chapel Hill, e.g. capstone course.

C. Credit Levels and Initial Credit Review. The administrative office overseeing undergraduate transfer credit awards UNC-Chapel Hill equivalent credit for lower division (e.g. 100- and 200-level courses) for all departments in the College of Arts and Sciences using the 70% criterion. The administrative office at UNC-Chapel Hill awards equivalent credit for upper division (e.g. 300-level and above) courses for all departments in the College of Arts and Sciences and requires academic departments to review the recommendation of equivalency for upper division courses before the credit is posted to the student's record. If there is not an upper division equivalent, departmental elective credit can be awarded.

D. The administrative office overseeing undergraduate transfer credit awards general elective credit for professional school courses, in which UNC-Chapel Hill has a comparable professional school/ competitive admission program (completed at an accredited college or university) during the initial review process.

E. Transfer courses taken 10 years ago or more must be reviewed by academic departments to determine if course content is still relevant and is applicable to a student's current program of study.

F. Credit is awarded to current students participating in UNC-Chapel Hill approved study abroad programs by the Study Abroad Office and other UNC global programs offices. The administrative office overseeing undergraduate transfer credit only awards transfer credit to students for study-abroad and international courses if the courses were completed prior to enrolling at UNC-Chapel Hill or for current UNC students who plan to take courses in their home countries abroad. For transcripts from an international institution, a course-by-course evaluation from World Education Services (WES) is required. The transfer credit hours are based

upon the WES evaluation. If WES is unable to provide an evaluation, the course(s) will be denied transfer credit at UNC-Chapel Hill.

See policy on Grades Earned At Other Institutions here (p. 350).

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 110	3
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	English General Elective	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 Mechanics	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
English Language 4 & Literature HL	4	ENGL 191	3
English Language 5 & Literature 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 Elective; 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 of the 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 languageplacement)	3
Spanish ab initio SL	6	Spanish General Elective, Placement in 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 PL	Placement credit for MATH 231; 0 hours awarded
College Algebra	50	MATH 110P	Placement credit for MATH 110; 0 hours awarded
French Language II	59	FREN 203 PL	Placement credit for FREN 203; 0 hours awarded
Precalculus	50	MATH 110P, MATH 129P	Placement credit for MATH 110, MATH 129P; 0 hours awarded
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, SPAN 204; 0 hours awarded

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 302	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	6
		General Elective, PORT 203, Placement into PORT 204	
Portuguese	5	Portuguese	9
		General Elective, PORT 203, PORT 204, Placement into PORT 310	

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

All classes authorized for academic credit must be assigned an approved instructional mode prior to student registration. Class meetings are to be scheduled accordingly as well as within defined credit hour standards.

The following provides a list of the available modes of instruction and a brief description of each instructional format. These descriptions are an overview and provide the minimal requirements for each mode. Individual classes may have unique characteristics or variations within these modes. Class modes other than the mode originally approved for the course may require additional levels of approval to determine appropriateness of the instruction format within the context of the corresponding academic programs. All class instruction delivered in a remote or online format is expected to be delivered with technology supported by the University and in accordance with related policies and procedures.

In-Person (IP)

- Instruction is offered in-person and student in-person attendance is required.
- Students are expected to attend all regularly scheduled on-campus class meetings and exam times, including the final exam, in-person throughout the term or semester.
- In some classes or under special conditions, minimal content and/or class meetings (less than 25%) may be delivered in a remote/online format to supplement the majority in-person instructional time.
- Specific dates for regularly scheduled in-person meetings must be defined and available to students in the University's student information system prior to the start of classes for the term or semester.

In-Person & Remote Hybrid (IR)

- Instruction is offered in both in-person and remote/online formats, and student attendance is required both in-person and online.
- Students are expected to attend all regularly scheduled class meetings and exam times, including the final exam, throughout the term or semester.
- Classes will have both in-person and remote/online meetings regularly scheduled at specific dates and times, with over half the class meetings scheduled as in-person. The exact amount of in-person and synchronous remote/online regularly scheduled instruction varies by class.
- In addition to the majority in-person instruction, significant content (25-49%) will be delivered in a remote/online format. This includes synchronous and/or asynchronous meetings.
- Specific dates for regularly scheduled in-person and synchronous remote/online meetings must be defined and available to students in the University's student information system prior to the start of classes for the term or semester.

Remote Asynchronous (RA)

- Instruction is offered in a remote/online format.
- Students are not required to attend class sessions on specific dates and times. All course content will be available in a remote/online format, either on-demand or within specified windows of time.
- 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 term or semester in which the class is offered.

- Any in-person or synchronous remote/online class meetings will be optional.

Remote Mostly Online & In-Person Hybrid (RM)

- Instruction is offered both remote/online (asynchronous and/or synchronous) and in-person formats and student attendance is required both online and in-person.
- Students are expected to attend all regularly scheduled class meetings and exam times, including the final exam, throughout the term or semester.
- Classes will have both remote/online (asynchronous and/or synchronous) and in-person meetings regularly scheduled at specific dates and times, with over half the scheduled class meetings being in a remote/online format. The exact amount of remote/online and in-person regularly scheduled instruction varies by class.
- In addition to the majority remote/online instruction, significant content (up to 49%) will be delivered at in-person meetings.
- Specific dates for regularly scheduled synchronous remote/online and in-person meetings must be defined and available to students in the University's student information system prior to the start of classes for the term or semester.

Remote Synchronous (RS)

- Instruction is offered in a remote/online format and student attendance is required online.
- Students are expected to attend all regularly scheduled remote/online class meetings and exam times, including the final exam, throughout the term or semester.
- All class instruction will be remote/online. No in-person attendance will be required.
- In some classes or under special conditions, minimal content and/or class meetings (less than 25%) may be delivered remotely/online in an asynchronous format to supplement the majority synchronous instructional time.
- Specific dates for regularly scheduled synchronous remote/online meetings must be defined and available to students in the University's student information system prior to the start of classes for the term or semester.

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 see the University policy and Faculty Council resolution on the 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 (https://curricula.unc.edu/wp-content/uploads/sites/1311/2023/04/Template-Adapted-for-Use-in-the-College-of-Arts-and-Sciences_Fillable.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.

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 (<https://facultygov.unc.edu/wp-content/uploads/sites/261/2011/03/Res2012-12OnIndependentStudyFinal.pdf>), Resolution 2013-6 (<https://facultygov.unc.edu/wp-content/uploads/sites/261/2011/03/Res2013-06OnIndependentStudyTFReportFinal.pdf>), and the University's independent study policy.

Semester Schedule

UNC–Chapel Hill awards course academic credits on a semester credit hour basis and primarily operates on a semester based academic calendar. The University's main academic calendar is divided into fall and spring semesters with standard course meetings within a 17-week terms and programs following this calendar require consecutive enrollment in these semesters. The University's main academic calendar also covers summer terms and Summer School typically 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 and the University's policy (<https://registrar.unc.edu/university-policy-memorandums/>) on registration.

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 degree-seeking student. (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 degree-seeking student.

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 topics, 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 W (withdrawn) is entered in the grade column of academic transcripts and a notation of WC (withdrawal by choice)

shall be recorded. The WC notation is 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.

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).

registrar.unc.edu/order-an-enrollment-certification/) is available online or by calling (919) 962-3954.

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://>

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

Details on final examinations are found in the University policy on the Examination System.

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 the University policy on the 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. For scheduling conflicts, **only final examinations for the current term** are considered as a basis for excusing a student from a scheduled final examination time. 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:						$47.80 \div 18.0 = 2.656$

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.

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 W (withdrawn) notation is entered in the grade column of academic transcripts when a student was approved to drop or withdraw from a class after the drop without record period. See Registration (p. 345), Enrollment, and Withdrawal (p. 345).

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. 345).

Grades Earned at Other Institutions

With the exception of courses taken via interinstitutional registration (p. 345), 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. 357).

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:

University 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: uco@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. 335)”) 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 (<https://advising.unc.edu/stay-on-track/academic-eligibility/probation-appeals/>).

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 the Non-Degree Student Appeals Committee (<https://visitingstudents.unc.edu/resources/#visiting-student-appeals>).

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. 335) 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. 350).

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 be 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 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_S3-3POOPCOMABEUNWISTSIMUPALOANREESBUOWOC)

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/apply/>) 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) (<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 Nondiscrimination (<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/ferpa-guide/>)

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 the University policy on Authorized Degrees.

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 ensuring 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 (<https://cashier.unc.edu/tuition-fees/important-dates/>) 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 (<https://registrar.unc.edu/ferpa-guide/>)) 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) (<https://studentaid.gov/h/apply-for-aid/fafsa/>)
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 (<https://gradschool.unc.edu/funding/gradschool/>): 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.

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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